

THE CHEMIST AND DRUGGIST

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AUGUST 23, 1919

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Rich in Phosphorus

Composition of "Bynogen."

"Bynogen" is a combination of pure Milk Protein, 75 per cent.; a specially prepared soluble extract obtained from selected whole wheat and malt, 20 per cent.; with 2 per cent. each of the Glycerophosphates of Soda and Lime and 1 per cent. of Glycerophosphate of Magnesia.

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"Bynogen" is indicated in all Enfeebled conditions, in Convalescence after Severe Illness, Mental and Nervous Exhaustion due to worry or over-work, Insomnia, Physical Fatigue, Wasting Diseases, Anaemia, Digestive Troubles, and is very helpful to Nursing Mothers.

Trade **Bynogen** Mark
BRINGS HEALTH



A Concentrated
Nutrient
and Restorative

Advantages of "Bynogen."

"Bynogen" possesses a most attractive flavour and thereby overcomes the objection hitherto experienced in other somewhat similar products.

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The prices indicated are subject
to 25% discount.

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*Pioneers in the Establishment of
STANDARDS OF PURITY
FOR ESSENTIAL OILS.*

Cash with Order Terms for



apply to all orders executed through the Chemist's usual source of supply and involve no disturbance of the ordinary course of business. All prices stated in the following table are strictly net, the discounts having been already deducted.

| Retail Prices | Net Cost to Retailers | | | Cases contain |
|---------------|--------------------------------|--------------------------------|--------------------------------|----------------|
| | Credit Terms | Cash with order terms | £50 Cash with order terms | |
| 1/6 per tin | Carriage Paid 14/5 per doz. | Carriage Paid 14/- per doz. | Carriage Paid 13/8 per doz. | 24 small tins |
| 3/- .. | 28/10 .. | 28/- .. | 27/4 .. | 12 medium tins |
| 7/6 .. | 72/- .. | 70/2 .. | 68/4 .. | 12 large tins |

Less than Single Case Lots Not Delivered by Makers.

Claims for short deliveries can only be entertained if the consignee examines the goods and signs for the number of unbroken cases received. The Railway Companies regard the term "Unexamined" as a clear signature. While every effort will be made to trace missing goods, we cannot accept liability for short deliveries if a clear signature is given.

CARRIAGE—Paid to nearest Railway Station.

PAYMENT—Net cash on the 10th of the month.

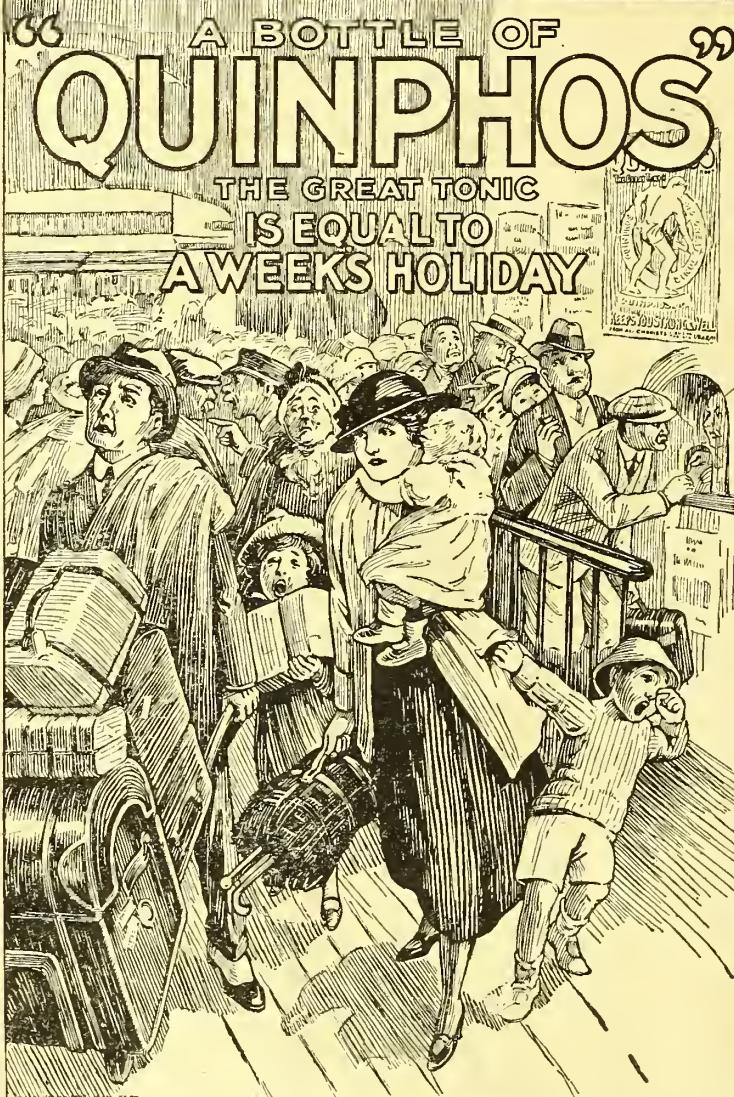
NEW ACCOUNTS—Must be accompanied by two satisfactory references, one of which should be the chemist's usual drug house.

THE SALES MANAGER

GLAXO, 155-157 GREAT PORTLAND STREET, LONDON, W.1

Proprietors : J. Nathan & Co., Ltd., London and New Zealand.

Wholesale Distributing Agents : SANGERS, Ltd., 42 Hampstead Rd., N.W.1.



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the new
**"QUINPHOS"
POSTER
IN
10 COLOURS**

will be supplied Free on receipt of postcard. It may be had unmounted for pasting on the window, or mounted as a showcard (either or both). The size is 15 in. by 10 in., and the picture will certainly draw people to your window.

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THE GREAT TONIC
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| | | Cost | Sells for |
|-------------------------------------|---------|---------|-----------|
| 3 doz. 1/3 "QUINPHOS" at 11/6 doz. | | £1 14 6 | £2 5 0 |
| 1 doz. 2/11 "QUINPHOS" at 27/- doz. | | 1 7 0 | 1 15 0 |
| | | <hr/> | <hr/> |
| | | 3 1 6 | |
| 5% discount for cash, 1 month ... | | 0 3 1 | |
| | | <hr/> | <hr/> |
| 9 × 1/3 Bonus for Window Display | | £2 18 5 | 0 11 3 |
| | | <hr/> | <hr/> |
| | | £4 11 3 | |

Outlay £2 : 18 : 5 PROFIT £1 : 12 : 10 = 56% on cost.
Sells for £4 : 11 : 3 £1 : 12 : 10 = 36% on Selling Price.

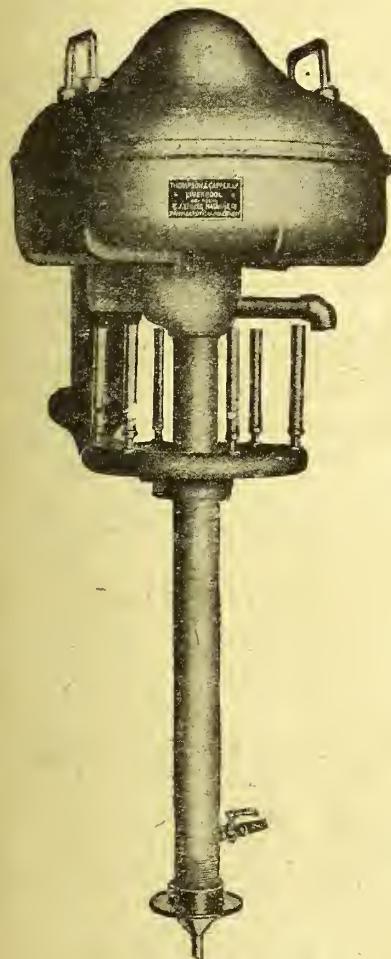
This means 5½ l. Profit on the 1/3 size.

| | |
|--------|----------|
| " 1/0½ | " 2/11 " |
| " 1/9½ | " 5 - " |

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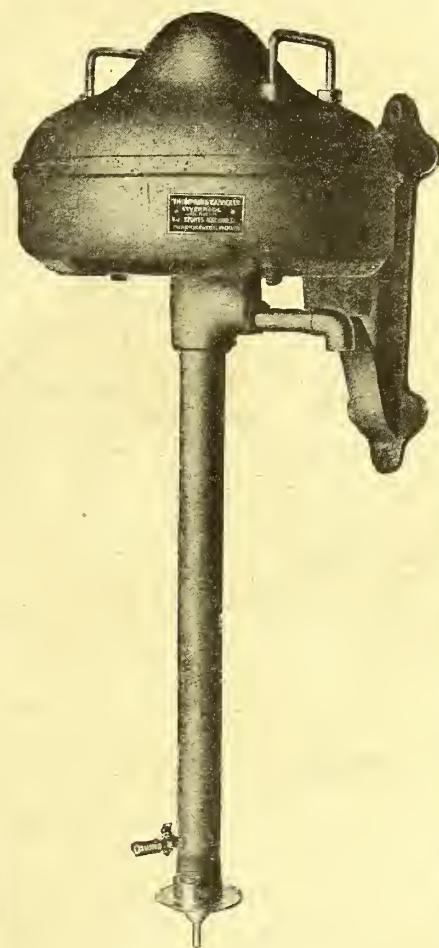
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AND GAS.

DISTILLED
WATER AT
RATE OF
 $2\frac{1}{4}$ GALLONS
PER HOUR.

Height, 48 in.
Weight, 110 lbs.

IMMEDIATE
DELIVERY.



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BE WISE

TO LOOK AHEAD AND PASS HIS

ORDER

FOR AUTUMN AND WINTER PACKED LINES EARLY THIS YEAR TO PREVENT DISAPPOINTMENT.

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MALT and OIL
COD LIVER OIL
 AND

PETROLEUM EMULSIONS

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WILL BE IN THE BEST POSITION TO MEET THE BIG DEMAND A MONTH OR TWO HENCE.

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QUININE

MAARSSSEN
QUININE and QUININE SALTS.

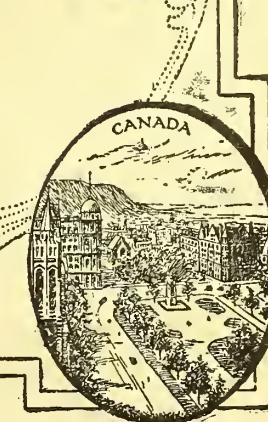
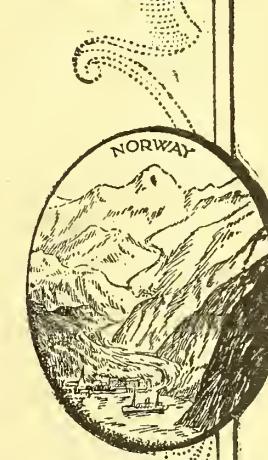
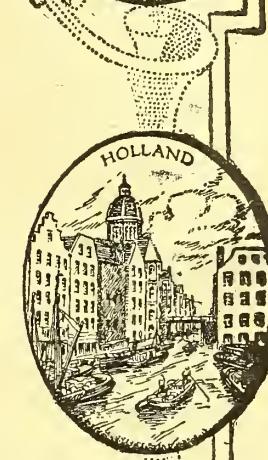
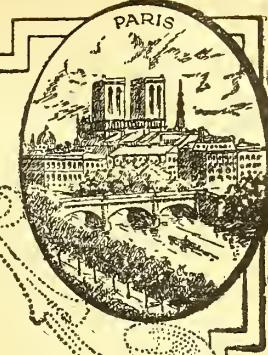
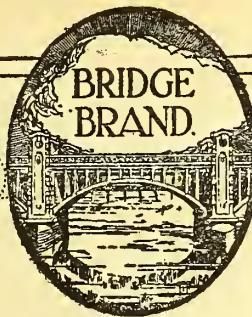
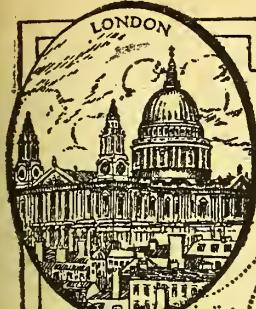
Unexcelled in Uniformity of Quality,
Brilliant Crystallisation and Purity of Colour.

CINCHONINE, CINCHONIDINE, QUINIDINE,
and their SALTS.

MANUFACTURED BY

NEDERLANDSCHE KININEFABRIEK, MAARSSSEN, HOLLAND

AGENTS.—R. W. Greeff and Company,
Thames House, Queen Street Place,
LONDON, E.C.4.



PHARMACEUTICAL AND PHOTOGRAPHIC PRODUCTS.

For spot delivery.

ACETANILID
ACETYL SALICYLIC ACID
COCAIN
EUCALYPTUS OIL
HEXAMINE
HYPOSULPHITE OF SODA
PYROGALLIC ACID
SALICYLIC ACID

*Enquiries also solicited for our usual range of
Pharmaceutical and Photographic Products.*

R. W. Greeff & Co.
THAMES HOUSE, QUEEN STREET PLACE,
LONDON, E.C.4.

MANCHESTER BRANCH:
Lloyd's Bank Buildings, King Street,

NEW YORK AGENTS:
R. W. Greeff & Co., Inc., 78, Front Street.

NEW YORK

IMPORTANT NOTICE to the TRADE.

ALTERATIONS IN RETAIL & TRADE PRICES.

The continued increases in the cost of everything, notably bottles, tins, fuel and labour, have necessitated the further revision of the full selling prices and trade rates of supply of several of our "**Sanitas**" Preparations, which we now beg to notify as taking effect on and after the 1st Sept.

| | | |
|------------------------|---------------------|----------------------------------|
| Small "SANITAS FLUID" | (late 10d. bottles) | increased to Retail 1/- |
| | | Trade rate 9/6 per dozen |
| Large " | " („ 1'3 bottles) | increased to Retail 1/6 |
| | | Trade rate 14/6 per dozen |
| Small "SANITAS POWDER" | („ 6d. tins) | increased to Retail 1/- |
| | | Trade rate 9/6 per dozen |
| Large " | " („ 1/- tins) | increased to Retail 1/6 |
| | | Trade rate 14/6 per dozen |

The above are subject to the usual discounts for quantities and to wholesalers.

All selling prices are protected at full face value.

The above are only the principal items, and space forbids fuller details, which will be found in our new Price Lists now being circulated, and available on receipt of a postcard.

(N.B.—All goods despatched by us up to and including August 29th will be invoiced at current rates, but all unexecuted orders in hand on that date will be regarded as placed or confirmed at the new prices IRRESPECTIVE OF DATE, unless specifically cancelled before August 30th.)

BOTTLES

are scarce and will be scarcer and dearer soon. Lay in a Stock of Bottled Goods at **PRESENT PRICES.**

| | | |
|-------------------------------------|-------|----------------|
| VANISHING CREAM, 2-oz. S.C. Jars | | 78/- per gross |
| BRILLIANTINE, 1½-oz. Corked | | 45/- " |
| " 2½-oz. " | | 84/- " |
| BAY RUM & CANTHARIDINE, 3-oz. Panel | 60/- | " |
| " 8-oz. Round | 99/- | " |
| BAY RUM (Spirit) 3-oz. Panel | 87/- | " 7/6 per doz. |
| " 6-oz. Mexican | 156/- | " 14/6 " |
| TOILET PARAFFIN, 3-oz. Panel, Corks | 57/- | " |
| " Best Quality, Sprinklers | 81/- | " |
| 8-oz. MIXTURES, cartoned | 95/- | " |

5% Monthly Account.

CARMOL, Ltd.

Washington Street,
BIRMINGHAM.

WOODWARD'S GRIPE WATER FOR INFANTS

IN sequence of our Notice of August 9, with reference to BOTTLE SUPPLIES, cut off owing to the strike in the Yorkshire Collieries, we wish to assure our Customers that every possible effort is being made to continue our output, but we are still confining our deliveries to the Wholesale Houses, as an even distribution of the limited available supply will thus be secured.

Our Customers can greatly help by collecting and returning empty bottles for which we are prepared to pay on special terms to be had from us on application.

Any Chemist who will assist by collecting and returning bottles may thereby assure himself of special consideration.

W.WOODWARD, LTD.

79/81 Fortress Road, London, N.W. 5.

‘ALLEN’S’
NEW SEASON’S
GREEN
EXTRACTS, &c.

EXT. BELLADON. VIRIDE, P.B. 1898
„ HYOSCYAMI VIRIDE, P.B. 1898
„ BELLADON. SICCUM, P.B. 1914
„ HYOSCYAMI, P.B. 1914
„ HYOSCYAMI (1st Year)
FOL. HYOSCYAMI BIENN. (2nd Year)
„ BELLADONNÆ ELECT.

Prepared from Herbs which grow on their own farms. As the fields surround the factory the Herbs arrive for treatment with all their medicinal properties unimpaired by delays in transit.

“ALLEN'S EXTRACTS” ARE THE RESULT
OF 80 YEARS' SKILL AND EXPERIENCE.

STAFFORD ALLEN & SONS,

LIMITED,

COWPER STREET, FINSBURY, LONDON, E.C.2.

And Long Melford, Suffolk.

Telegrams:
“Persic, Finsquare, London.”

Telephone :
London Wall 6556 (3 lines).



Items:

An ideal Suspensory for hot weather—Maw's "Tropical." Bag and Waistband made of cellular cloth, giving maximum degree of ventilation and comfort. Can be thoroughly washed without slightest damage. Each in box attractively labelled. Three sizes: small, medium and large. Price 17/- per dozen.

The Enema of outstanding merit is Maw's Red Moulded Maw Quality—English-made, what more can we say as a guarantee of value to our customers? Every Red Moulded Enema is boxed complete with elastic gum vaginal pipe and leather shield. There is no outside indication of contents upon the hinged dome-top box. Price 48/- per dozen.

No. 1603 is the order number of a bargain Nail Brush. It has an outer row of black bristle and seven inner rows of white fibre, 8 rows in all. The hollow back and the pleasing combination of bristle and fibre fill one with a fine sense of quality and hard wear. The size is 4 $\frac{1}{2}$ " in length \times 1 $\frac{1}{2}$ " wide. Price 9/- per dozen, or three dozen at 8/- per dozen net.

As a substitute for chamois you could not have a better article than a Polishing Cloth. Two sizes, 19 \times 17" at 7/6 per dozen, and 14 \times 10" at 3/3 per dozen. The price is right and you are certain of good value.

Our well-known "Omega" Nasal Spray, complete with double bellows, stout vulcanite spray tube, and best quality glass bottle is another of those appliances we can now supply regularly. Each in card box. Price 36/- per dozen.

The Perfect Tooth Powder in the Perfect Box

PAREX
MEANS
Perfection



SAME POWDER—DIFFERENT TIN.

A TOOTH Powder of supreme excellence deserves the attention of all pharmacists, so we hope that they will bestow their consideration upon the merits of "Parex" Tooth Powder in its NEW style as a selling line.

The Powder itself is as perfect as a Tooth Powder can be. It is made from a formula of unquestionable value, and contains all the properties essential to an ideal dentifrice. The containers have had special attention given to them, because we realise that however good the contents may be it will only sell if attractively and conveniently put up. The body of the tin is enamelled, and shows an oval blue panel on a light ground. The complete effect is decidedly charming, and the tin stands out among other goods in a way which appeals strongly to a purchaser.

Chemists who handle "Parex" Tooth Powder sell a remunerative line which we are convinced will bring repeat business. There is no Tooth Powder quite like "Parex." There is no other brand so rich in cleansing and antiseptic properties, so carefully and scientifically prepared as "Parex."

The quality of this fragrant Dentifrice, THE SAME the handsome art tin, the name, all POWDER, proclaim and endorse the continued success of this production. With the retail price at 1/- per tin, the wholesale price being 6/- per dozen, less 5% discount, with bonus tins on quantities from one dozen upwards—the net profit on cost and return is evident. It will be clearly apparent that the bonus scheme offers distinct advantages in considerably increased profits to the pharmacist.

| |
|----------|
| PRICE |
| 6/- |
| per doz. |
| WITH |
| GENEROUS |
| BONUS |
| OFFER |

BOTTLE SHORTAGE



THE difficulties arising from insufficient supplies of Bottles are affecting the interests of producers, wholesalers, and retailers to a serious extent at the present time.

The shortage is due to a variety of causes which need not be here discussed.

A helpful suggestion, however, is that the various local Associations of Pharmacists and Chemists might convene a Meeting of their Members to arrange a receiving house (preferably one of their own Members) to which all empty proprietary bottles might be returned. They would then be sorted—having been credited to the Member returning them—and forwarded to the original owners who would pay the Association in gross for returns.

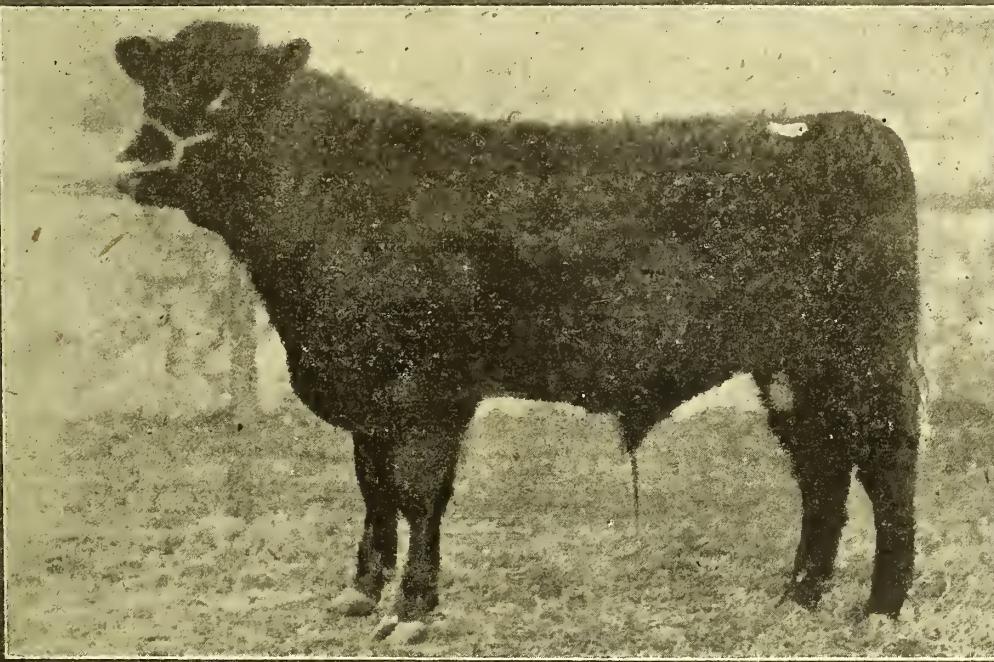
Proceeds would be distributed—after paying sorting expenses—amongst the Members pro rata. This scheme might be further extended by an arrangement with the various Proprietors assuring to the Local Association supplies of commodities in proportion to the bottles collected and returned.

FOR PEDIGREED AND COMMERCIAL CALVES
"ISCO" BRAND COD LIVER OIL

IS UNRIVALLED.

Finest Oil Produced.

Gives Excellent Results.



CAPTAIN AUGUSTUS.

Red Shorthorn Pedigreed Calf, bred by Mr. H. M'L. Duncan, Lethenty, Alford, and sold at 2600 guineas to Lady Cathcart, Cluny Castle. This beautiful Bull, fed on "ISCO" COD LIVER OIL, was calved in March, 1918, and won the championship at Aberdeen Show when eleven months old.

Manufactured only by

ISAAC SPENCER & CO. (Aberdeen) Ltd.
ABERDEEN, SCOTLAND.

You can "know too much" of one thing!

It is an achievement to qualify as a Pharmacist—but it is a bigger thing to master the art of making Pharmacy profitable.

Ucal does not pretend to "teach you your business." But assuming that you do know it thoroughly, as a commercial proposition you cannot logically evade the admission that Ucal offers a way to more profit.

Ucal *claims* your serious consideration NOW on grounds of the most rigid common sense.

Co-operation in Advertising.

We all know that advertising sells goods—that is why we have to hand out so many "patents."

Practically speaking, no individual Ucalite could afford advertising of the highest grade, because the initial expenses are so heavy. But collectively they can command the very best.

This is one of the strongest features of the Ucal Plan—the advertising is of the most modern kind, the only kind which in these days is good enough.

Smart in idea and matter alike—bright in colour, well illustrated and well printed, it is "up to the minute" in every way. Specimens can be sent to those interested.

The Ucal Pharmacist speedily becomes the best known pharmacist in his district—and this increases business in other things besides Ucal Specialities.

There is no limit to the advertising assistance furnished by Ucal—every form of ammunition from tie-on labels and invoice headings, from printed wrapping paper to counter bills, folders, novelties, booklets, window strips, showcards, complete window displays—indeed everything in the way of printed matter.

Ucal Cheltenham Spa

August is the month for Lemonade!



**Look to your Stocks of
Ayrton's
Lemonade Tablets and
post your order right
away. Sales missed
next week are missed
for ever.**

**If you post your order
right away, we will
despatch by return.**

WE PAY CARRIAGE ON ONE GROSS

Retail - - - **6½d.** per tube

Wholesale - - - **58/-** per gross

**Ayrton's
Thirst Quenchers**
delicious Lemon Circles
which Melt on the
Tongue.

| | | |
|----------------|------|-----------|
| 1½d. packets - | 10/6 | per gross |
| 3d. " " | 21/- | " |
| 9d. tins - | 72/- | " |

AYRTON, SAUNDERS & CO. LTD.
LIVERPOOL

— SICILIAN —
LEMON - BERGAMOT
ORANGE - MANDARINE.
— SPINELLI —

THE OILS THAT HAVE A LONG
REPUTATION FOR QUALITY.

In the manufacture of our Terpeneless Oils it was imperative that we secured the very finest Sicilian Oils to work upon. After several exhaustive tests we came to the conclusion that "SPINELLI" brand of Sicilian Oils gave us the best results. As we were able to place large orders for our own needs with the manufacturers, we have pleasure in stating that they have entrusted us with their British Agency, and we offer to users of Sicilian Oils the benefit of our experience. There is quality in every package. Guaranteed Genuine Oils of authentic origin, and to conform to any :: :: :: analysis as to purity. :: :: ::

HOLLANDS DISTILLERY LTD.
Lavington Street, Southwark, LONDON, S.E. 1

A B C Code, 5th Edition
Western Union.

Telegrams: "LANDSLQH, LONDON."
Telephone: HOP 898.

AMERICAN AGENTS—O. A. BROWN CO., INC., 99-101 Beckman Street, NEW YORK.
CANADIAN AGENTS—F. S. JARVIS & CO., 18 Toronto Street, TORONTO.

TERPENELESS OILS

BRITISH MADE.

We manufacture exclusively ourselves all kinds of Terpeneless Oils, and invite inquiries from users throughout the World.

WE SPECIALISE IN TERPENELESS:

Anise (Anethol)

Bay

Bergamot

Caraway

Cassia

Cinnamon

Clove

Dill



Geranium

Ginger

Juniper Berry

Lavender

Lemon

Limes

CITRAL

Mandarin

Nutmeg

Orange



Peppermint

Petitgrain

Rosemary



**CINNAMIC
ALDEHYDE
GERANIOL**



EUCALYPTOL

HOLLANDS DISTILLERY, Ltd.

Lavington Street, Southwark, London, S.E. 1.

A B C Code (5th Edition),
Western Union.

Telegrams : "LANDSLOH LONDON."
Telephone : HOP 898.

AMERICAN AGENTS—O. A. BROWN CO., INC., 99-101 Beekman St., New York.
CANADIAN AGENTS—F. S. JARVIS & CO., 18 Toronto Street, Toronto.



HIGH CLASS SURGICAL DRESSINGS

Telephone: 694 Stockport.
Telegraphic and Cables Address: "Undisputed," Stockport.

CODES: { 5th Edition ABC,
Marconi and Lieber's.

IF

a sudden call were made for Pneumonia Jackets, would you be ready to supply? Don't wait till the epidemic comes before you order.

ORDER NOW "ZORBO" JACKETS.

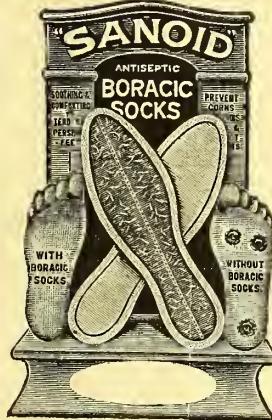
| | |
|------------------|-------------------|
| No. 1 - 9/- doz. | No. 4 - 19/- doz. |
| „ 2 - 11/3 „ | „ 5 - 23/- „ |
| „ 3 - 15/6 „ | „ 6 - 27/6 „ |

Nos. 3, 4 & 5 are the best sellers, but you should have a few of the others as well.

ROBERT BAILEY & SON,
SURGICAL DRESSING MANUFACTURERS,
MARRIOTT STREET MILLS, STOCKPORT.
CABLES UNDISPUTED, STOCKPORT, CODE A.B.C 5TH EDITION.



“SANOID” Boracic Socks



Facsimile of Showcard.

Many Chemists have enjoyed the ready Sale of
Boracic Socks which literally
SELL THEMSELVES

7/3 per dozen pairs. **84/-** per gross pairs.

ON P.A.T.A. LIST.

Retail price **10½d.** per pair.

Sample Pair post free on application.

**CUXSON, GERRARD & CO. LTD.
OLDBURY, near BIRMINGHAM.**

Export and Colonial inquiries specially invited.

PURE SPANISH ESSENTIAL OILS

(LONABARC BRAND).

ROSEMARY

LAVENDER

GERANIUM

PENNYROYAL

THYME (RED & WHITE)

SAGE

FENNEL (SWEET & BITTER)

ORANGE

LEMON

THYMOL

ACONITE ROOT

GENTIAN ROOT

LAVENDER FLOWERS

QUINCE SEEDS

Write for samples and prices to LONABARC TRADING CO., LTD., 5 FINSBURY SQUARE, E.C. 2.

'Phone: LONDON WALL 9020.

"Lanzone" Lanolin

The Odourless Adeps Lanæ, B.P. Manufactured by

THE LONDON PHARMACEUTICAL REFINERS, LIMITED,
Martin's Yard, Endwell Road - LONDON, S.E. 4.*In a leading article in the "Medical Press" of June 26, 1918, occurs the following:*

"I hope that the same effort will be made to abolish Hun drugs as to get rid of Hun dyes. In one direction I am glad to find that this is being seriously attempted. One of the most important bases for ointments is lanoline. Now the English lanoline which is made by the London Pharmaceutical Refiners, Limited, of Brockley, has the merit of being superior to the old German lanoline. The B.P. allowance of fatty acids is 7%, whereas this new English lanoline shows only 3%. The new preparation is quite odourless, and acid fats do not develop in it by keeping. These are great merits, and show the extreme care with which the refining process has been carried out by the British refiners."

Samples and Quotations from the Selling Agents:

THE PRODUCE BROKERS' COMPANY, LIMITED, 24 St. Mary Axe, LONDON, E.C. 3.

ADEPS LANÆ, P.B.

THE FINEST BRITISH LANOLINE PRODUCED

IS MANUFACTURED BY

THE PHARMACEUTICAL LANOLINE CO.

7 Carnwath Road, Fulham, London, S.W.

WHO INVITE INQUIRIES.

F. M. RUDD,

Bronson,

MICHIGAN,

U.S.A.

GENUINE AMERICAN PEPPERMINT OIL

"Columbia" Natural

"Diamond White"

Re-distilled.

Finest qualities for Druggists,
Distillers and Confectioners.Sole Consignees in United Kingdom—
R. W. GREEFF & CO.Thames House,
Queen St. Place, LONDON, E.C.

ORELA LTD.

(Late Parfumerie Aristocratique of Paris. Estab. 1899.)

37 Berners Street, London, W.1.

Our factory has been transferred from Paris to London.

Quality, Elegance, Large Profit, Prompt Service.

We manufacture

Face Powders, Toilet Creams, Face and Hair Lotions, Concentrated Perfumes, Artificial Oils, Eau de Cologne, and perfumery and toilet products of all kinds, "Own Name" being a speciality.

Wholesale and Export Selling Agent :

C. W. PARKER,

23 Coleman Street, LONDON, E.C. 1.

Telephone: Regent 4506.

AMERICAN ESSENTIAL OILS

"MOHAWK" BRAND

OIL PEPPERMINT (Natural)

OIL CEDARWOOD
OIL CEDARLEAF

OIL HEMLOCK
OIL BIRCH

Heliotropine Crystals C.P.

Vanillin C.P.

Coumarin C.P.

Oil Wormseed, American.

Oil Wintergreen Leaf

U.S.P.

MAGNUS, MABEE & REYNARD, Inc.

Essential Oils, Chemicals and Drugs,

NEW YORK - U.S.A.

Cables—"MAGLAUR."

THE name Zenobia is so intimately associated with perfection in perfumery, that the buying public eagerly welcome the Toilet Preparations also manufactured by the firm of Zenobia, Ltd. Chemists will find that the name

ZENOBIA

alone is sufficient to ensure ready sales, while the pleasure found in the use of Zenobia Specialities in its turn ensures satisfied customers. We particularly recommend

| | |
|-----------------------------|---|
| ZENOBIA BRILLANTINES. | ZENOBIA TOILET POWDERS. |
| -/9d. size.....6/9 per doz. | 1/3.size.....10/6 per doz. |
| 1/6 " ... 13/6 " " | 2/9 "24/- " " |
| 2/6 " ... 22/6 " " | -/7d. Poudre Orientale. 5/6 per doz. |

Subject to usual discount.

A complete Catalogue will be forwarded on application to—

ZENOBIA LTD., Loughborough, ENGLAND

Enolin

TOOTH PASTE

"STRONG" OR "MILD"

The Super Paste

If your wholesaler has not sent you sufficient advertising matter for window display, drop us a postcard and we will send you a good assortment, post free.

SOLE MANUFACTURERS & PROPRIETORS:

A. & E. CARRERAS, Perfumers,

Offices : 207 King St., Hammersmith, London, W.6.

Telephone :
H AMMERSMITH 600
Telegrams :
**"ESOLINDOL, HAMMER,
LONDON."**

DECOLTEINE
The liquid hair remover

The intelligent depilatory.
Simple, safe and effective.
Can be used while performing the toilet.



Dinkie
Dainty Deodorant

The greaseless cream that takes all odour out of perspiration. Packed in attractive opal jars.

DIADEM
Crème Rouge

Gives a natural colour to the cheeks. Far more convenient in use than dry rouge. Easily removable.

DIADEM
Face Powder

Adheres readily to the skin. Made in Blanche, Naturelle, Rachel, Rose and Sunburn tints. In large artistic boxes, in distinctive style.

DIADEM
Eau de Cologne.

A Perfume of most exquisite fragrance. Cooling, lasting and refreshing. In handsome sprinkler bottles.

TRADE TERMS.

| | P.A.T.A. | Trade per doz. |
|----------------------|-----------|----------------|
| Decoltene Depilatory | 3/9 | 30/- |
| Dinkie Deodorant | 2/6 | 20/- |
| Diadem Face Powder | 2/6 | 20/- |
| " Complexion Wax | 2/6 | 20/- |
| " Crème Rouge | 2/6 | 20/- |
| " Vanishing Cream | 3/9 | 30/- |
| " Talcum Powder | 1/3 | 10/- |
| " Eau de Cologne | 1 oz. 1/9 | 14/- |
| " " | 2 oz. 3/3 | 26/- |
| " " | 4 oz. 6/- | 48/- |

ROBARTES, Ltd., Dyer's Buildings, Holborn Bars, London, E.C.I.

DIADEM
Vanishing Cream

DIADEM
WAX For the Complexion

DIADEM
Talcum Powder

A cream of rare purity and charm, put up in novel white globes and packed in dainty boxes in attractive style.

Completely supersedes the customary greasy Toilet Creams. Pleasant in use and commands ready sales. In elegant large jars.

The ideal powder for Nursery and Toilet. Choicely perfumed, and may be used with impunity on the most sensitive skin.

NOTICE.

Artistic Showcards and Counter Matter free on request. Robartes' Preparations are obtainable from all leading wholesale houses.

Largely advertised in all the leading dailies, weeklies and monthlies.

Further particulars and descriptive booklet forwarded on request.

**IT PAYS
TO PUSH**

ANZORA

because we allow you an excellent profit for your trouble. For every 1/6 bottle you sell you make 6½d. profit. Isn't it worth it?

TRADE TERMS.

11/6 per doz. Retailed at 18/-
19/6 " " " 30/-

ANZORA

MASTERS THE HAIR

Of all Wholesalers.
Showcards on request.

Anzora Perfumery Co., Willesden Lanes, N.W.6

IMPORTANT.

WILL Retail Chemists kindly note that ORISAL MOUTH WASH for PYORRHÆA is now prepared only in a highly concentrated form at 4/9 per bottle retail, the contents being four times the strength of those hitherto retailed at 2/9.

WHOLESALE PRICES.

Mouth Wash (including Govt. duty, 12/-)
48/- per doz.; Retail 4/9 per bot.
Dental Paste (including Govt. duty, 6/-)
23/- per doz.; Retail 2/3 per tube.

Obtainable from the principal wholesale houses, or direct from

ORISAL LTD.

77 GEORGE STREET,
PORTMAN SQ., W.1.

VEN-YUSA

Shampoo Powders

DAINTY
ATTRACTIVE
PROFITABLE

AND

Well Advertised



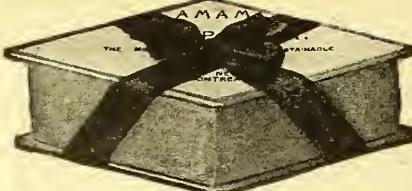
PRICES—3d. size, 11/- for carton
containing 6 dozen Powders.

1/6 size, 13/6 per dozen
cartons

C. E. FULFORD, LTD., LEEDS.



Nail Paste ... 1/-
Ruby Cosmetique 1/-



Nail Powder, 1/-



Cuticle Cream, 1/-



Nail Stone, 9d.

AMAMI MANICURE AIDS.

QUICK SELLING LINES. GOOD PROFITS.

| | Doz. |
|--------------------|------|
| Amami Nail Stones | 6/- |
| Amami Nail Crayons | 6/- |
| Amami Nail Paste | 8/- |
| Amami Nail Powder | 8/- |
| Amami Nail Varnish | 12/- |

| | Doz. |
|-----------------------|------|
| Amami Cuticle Cream | 8/- |
| Amami Ruby Cosmetique | 8/- |
| Amami Cleanseine | 8/- |
| Amami Orange Sticks | 12/- |
| Amami Emery Boards | 12/- |

BONUS of 10/- worth of goods on £5 orders (Wholesale Prices). Carriage Paid. Cases Free. Send for a £5 assortment and get a profit of 65% on outlay.

PRICHARD & CONSTANCE (Whol.), Ltd., 469 Holloway Rd., N.7



Nail Varnish, 1/6 -



Orange Sticks, 1/6



Emery Boards, 1/6

**SALES
BEAT ALL RECORDS.**

INDIAN PERFUME BRICK

KEEPS AWAY MOTH.
LASTING & FRAGRANT.

**PERFUME
BRICK**

FOR LINEN CUPBOARD AND WARDROBE.

Retail Price, 6d.

Of the Makers:

ALBERT WILLIS & ARTHUR, Ltd.
6 Mortimer St., London, W.
AND ALL WHOLESALERS.

SPECIAL PACKED LINES.

2d. Shampoo, excellent quality, 12/- per gross; 2d. Sunrosa Antiseptic Foot Powder, 12/-; 2d. San-San Foot Bath Powder, 12/-; 2½d. extra strong Seidlitz Powders, in envelope, 16/-; 2d. Lem-Fru Lemonade Powder, for 1 qt., 18/-; 3d. Albion Straw Cleaner, 21/-; 3d. Soova Corn Plaster, 2½/- all in artistic envelopes; 1½d. Skinrose Tablets, for hands, on cards, 12/-; 1½d. Rosaline Pommade, on cards, 12/-; 4 oz. Extract of Herbs, 72/-; Lemma Concentrated Lemonade, 114/-; Health Salt, best quality, in superior tins, 78/-; 2 oz. Brilliantine, capped, 72/-; ½ oz. Ditto, 54/-; 2½ oz. Toilet Paraffin, 72/-; 2½ oz. Bay Rum, 72/-.

Lemonade Powders, Health Salts, and Lemma made with Pure Cane Sugar and Syrup respectively.

Terms—Cash with order. Discount 10% given. Carriage Paid on assorted orders of £2 and upwards to any part of the kingdom. Prompt delivery. Works, under management of Qualified Chemist, equipped with modern machinery and electric power. Address;

MORGAN W. JAMES & CO.
Manufacturing Chemists, TUDOR STREET, CARDIFF
(WHOLESALE ONLY)

AYRTON-GRAHAM, Ltd.

DESIGNERS AND ACTUAL MANUFACTURERS OF

**FITTINGS FOR THE
MODERN PHARMACY.**

SHOP FRONTS, SHOWCASES, EXHIBITION CASES, WINDOW FITTINGS, &c. &c.

All goods of best quality and finish at lowest rates. Inquiries invited.

106 Duke Street, LIVERPOOL.

Gibbs' COLD CREAM SOAP

(IN THE PINK WRAPPER)

The Retail Price of the above is now 7d. per tablet.
1/9 Per Box of three Tablets.

Gibbs' Shaving Soap
Gibbs' Dentifrice

| | | |
|-----------------------|------|--------------------------|
| Nickel Case | 1/3 | HAVE NOT ADVANCED. |
| Standard Enamel Case | 1/- | |
| Small Enamel Case ... | 7d. | |
| Popular Size | 6d. | |
| "De Luxe" Size ... | 1/3 | |
| Refills for above ... | 10d. | |
| Tube form | 1/3 | |

Write for Latest Lists.

D. & W. GIBBS, Ltd., The City Soap Works, LONDON, E.1



Offers an opportunity to every Chemist and Druggist of supplying their customers with genuine lines attractively packed, and of making large profits for themselves (nearly 140%).

To introduce our lines we are offering (for a limited time only) £2-7-6 for £1, as follows :—

| | |
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| 3 doz. Delphinus Nail Polish (6d. size) | 18/- |
| 2 " " Cloth Cleaner (4½d. , ,) | 9/- |
| 2 " " Styptic Pencils (6d. , ,) | 12/- |
| 1 " " Antiseptic | |
| Shaving Block (8½d. , ,) | 8/6 |
| | <u>£2-7-6</u> |

The above will be supplied carriage and package free to every reader of the "C. & D." for the price of £1, monthly account, or less 3½% for prompt cash.

This offer is worth consideration.

Special quotations to shippers, large buyers, &c., &c.

Export to All Countries.

45 Edward Street, Brighton,
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Demand always increasing. ON THE P.A.T.A.

SoTOL

Antiseptic Mouth & Throat Wash.
Non-Carbolic Tooth Powder.
Tooth Paste.

From all Wholesalers or direct from
THE WESTERN DENTAL Mfg. Co. Ltd.

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Laboratories — West Ealing, W. 13.

Advertising matter free on request.

CHEMICALS DYES ESSENTIAL OILS

For the Toilet and
Perfumery Trades

EUDERMINE CO., LTD.
79 COLEMAN STREET, LONDON, E.C. 2.

IT ONLY COSTS NINEPENCE PER LB.

TO MAKE A FIRST-CLASS VANISHING COLD CREAM WITH

THE IDEAL BASE FOR

WENO

VANISHING TOILET CREAMS

(REGISTERED)

It can easily be made in about fifteen minutes.

1 lb. 3/6 - 4 lb. 13/8 - 7 lb. 23/4 net.
POSTAGE EXTRA

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SOLE AGENTS—

MEGGESEN & CO., LTD.

NEW CHURCH ST., BERMONDSEY, LONDON, S.E.

**FACE CREAM. TOOTH POWDER. NAIL POLISH
POWDER. " PASTE. HAIR CREAM
BRILLIANTINE, Solid and Liquid. PERFUMES
VIOLET POWDER. TALCUM. TOILET OATMEAL
SHAMPOO POWDER & LIQUID. MASSAGE CREAM**

Your own formula prepared, or we can supply ingredients if desired.
Send for samples and quotations.

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PHONE—AVENUE 1945.

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ASTRAL DISPLAY STANDS ARE MUTE MAGNETIC MONEY MAKERS



Send for Booklet, which will tell you all about it.
A. F. CORBETT & CO., Chemists' Complete Outfitters, 151 High St., Harborne, Eng.

To the Trade

WE MAKE

Screw Caps

IN ALL SIZES & METALS

Send inquiries to

A. F. CORBETT & CO.
151 High St., Harborne, Eng.

Zam-Buk Foot Baths



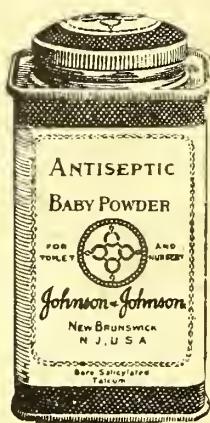
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AND IRELAND

ORDER A SUPPLY To-DAY

AND BE PREPARED FOR THE
EXTRA DEMAND DURING
THE SUMMER WEATHER

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IRISH AGENTS { Messrs. T. McMullan & Co., Victoria St., BELFAST
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Look for the Name and Trade Mark.



ANTISEPTIC BABY POWDER

MANUFACTURED BY

Johnson & Johnson.

We wish to warn our Customers, so that they may be on their guard, that our package is being imitated. This step, which is so easy, is an undignified and shabby attempt to rob us of our goodwill.

WARNING.

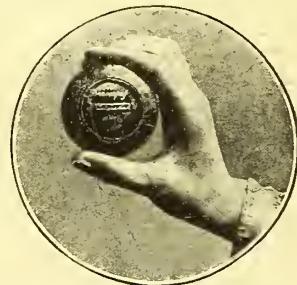
The contents cannot be imitated, and the Trade Mark cannot be imitated; and we would ask those Customers who have handled this preparation for a quarter of a century, with every satisfaction to themselves and to their clients, to resent this method of copying other firms' productions by insisting on having the original package bearing the registered Trade Mark, which is the guarantee of quality.

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104 Golden Lane,
LONDON, E.C.**

MOUSLEY'S 'BEAVERPUFF'

Patent Nos. 4931 and 4932.

The Ladies' Natty Friend.



Just out. Demand great.
Delightfully soft in use.
Superior to artificial Puffs.
Write for Prices and Terms

F. A. MOUSLEY.
(MAKER)

Priest Bridge, Mortlake,
London, S.W. 14.

A Real "Seller" "OKOS" Tooth Powder

*A wonderfully fine Tooth Powder
with a refreshing Mint Flavour.*



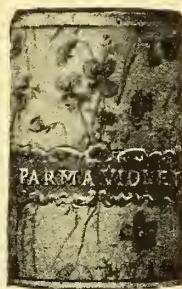
**7½d. per tin.
£3 PER GROSS
15 dozen to the gross.**

Q To introduce "OKOS" to the Trade, we are offering 15 dozen to the gross, carriage paid, for cash with order, until further notice. Smaller Orders through your Wholesaler.

"OKOS" is being well advertised—you are sure to be asked for "OKOS"—don't disappoint a customer, get your stock in NOW. "OKOS" is beautifully put up under attractive labels and cartons, dummies of which we will supply for Window Display on request.

**Sole Proprietors—
THE MIDLAND
WHOLESALE,**
2 Regent Place, Leamington Spa.

This Showcard, printed in five colours, supplied FREE.



The “4 Medal” Brand One-Drop Perfumes

Absolutely true to the flower, lasting and refreshing

Twenty-five varieties of Perfumes are kept in stock. These One-Drop Perfumes are the best value and the quickest sellers on the market. In Octagon Bottles, with globe stopper and glass rod. Packed in round Fancy Boxes, with various floral designs.

12/- PER DOZ.

MOST CONVENIENT AND PORTABLE FOR LADIES.

Oxygen Straw Cleaner

Recommended not only as an easy and quick cleaner of Straw and Panama Hats, by the liberation of Oxygen, but may be used also for cleaning Basket Ware without injury to the fabrics.

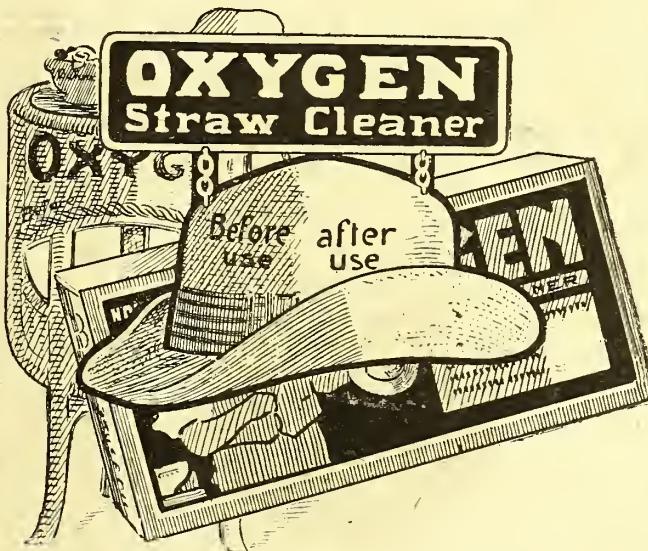
**ONE OF THE BEST LINES
YET INTRODUCED**

In Show-cartons of half-gross each

20/- PER GROSS.

A packet is sufficient to clean two straw hats.

Elaborate Window Showcards Supplied

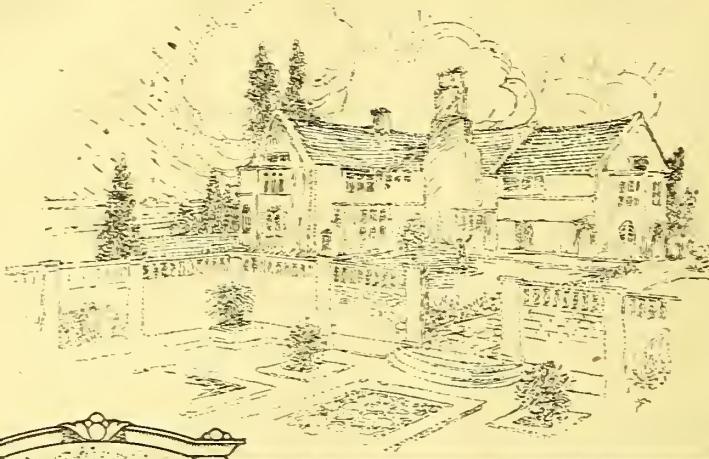


H. E. STEVENSON & CO.

Manufacturing Chemists and Wholesale Druggists,

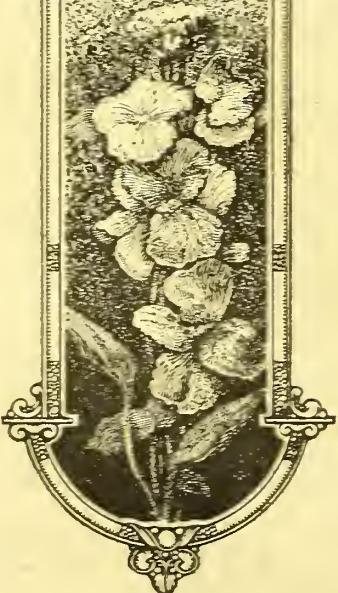
122, GREAT SUFFOLK STREET, LONDON, S.E. 1

Mr. Stevenson was for many years a Director of BAISS BROTHERS & STEVENSON, LTD. -



WALLFLOWER

A "Distol" of old-world Charm



A SPIRIT Perfume made from "Distol" Wall-flower costs no more than 15s per pint. A Semi-Spirit Perfume of equal odour-strength can be made for 10s per pint. Retail prices of 2/- and upwards per ounce are easily obtained. Method of procedure is absurdly simple—just the addition of Otto, S.V.R. and Aqua. Dest. No need for blending, tinting, filtration, distillation or other time-absorbing processes.

There are 34 "Distol" Ottos costing 6/-nett per oz. Price Cards and bulk retailing labels supplied free. Small labels and neckbands printed with Chemists' name in lots of 100 sets at nominal cost.

THOMAS KERFOOT & CO LTD
BARDSTLE VALE, LANCASHIRE,
& Bardsley House, London, N.1
ESTABLISHED 1767.

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established in London nearly a century ago, is now one of the foremost houses for the Manufacture and Supply of

FINE CHEMICALS
for Medicinal Purposes.

DRUGS.

PHARMACEUTICAL PREPARATIONS
of All Kinds.

ESSENCES and ESSENTIAL OILS.

**HOSPITAL EQUIPMENT and
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Quotations given, and goods Packed for Shipment to all parts of the World.

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BAISSL BROTHERS & COMPANY, Ltd.

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Grange Works, 174, 175, 176 GRANGE ROAD, BERMONDSEY, LONDON, S.E. 1

Drug and Herb Farm : CARSHALTON, SURREY.

Turn 8/- into 24/-

IN ORDER TO INTRODUCE OUR WELL-KNOWN

2d. "WYONA" HAIR SHAMPOO

UNIVERSALLY OVER THE UNITED KINGDOM,

To the first 1000 Chemists or Druggists sending
8/- Postal Order or Cheque we will send

1 gross 2d. "WYONA" Hair Shampoo

in free package, post paid.

Get it to-day. Strikingly got up in bronze blue and distinctive red. Here is
an exact reproduction of the

2d. "WYONA" HAIR SHAMPOO

Sells in a few weeks' time without effort.



Send now to the exclusive Proprietors and Sole Manufacturers:

NI-VERRE CHEMICAL CO.

5, 6 and 7 Ormeau Avenue, BELFAST (Ireland)

INCREASING POPULARITY OF “HARLENE HAIR DRILL.”

EVERY DAY EMPHASISES THE NECESSITY
FOR MEETING THE PUBLIC DEMAND.

The widespread publicity initiated by the Proprietors of “Harlene” over a number of years and vigorously maintained right up to the present time, in spite of many difficulties and increasing expense, continues to draw an immense response from all parts of the country. Thousands of sample parcels are dispatched daily, thus increasing the number of possible customers to retail stores everywhere.

HAVE YOU A GOOD STOCK OF “HARLENE HAIR DRILL” PREPARATIONS?



NOTE—The Contents of the Free HARLENE OUTFITS Comprise:

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|-------------------------------|---|
| 1. A Trial Bottle of Harlene. | 3. A Trial Bottle of “Uzon” Brilliantine. |
| 2. A “Cremex” Shampoo Powder. | 4. Book of Instructions. |

FOLLOW THE TIDE OF SUCCESS.

Watch the great Free Gift Advertising Campaign that brings the Customers to your shop.

No Chemist or Store can afford to be without this unique line of Toilet Preparations.

“HARLENE” FOR THE HAIR “ASTOL” FOR GREY HAIR
 “UZON” BRILLIANTINE “CREMEX” SHAMPOO POWDERS
 “ASTINE” VANISHING CREAM “ASTINE” SHAVING STICK
 “ASTINOL” AROMATIC FLUID.

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EDWARDS’ HARLENE, Ltd.

20, 22, 24 and 26 LAMB’S CONDUIT STREET, LONDON, W.C. 1.



EVAN WILLIAMS'
ORIGINAL
Henna
Shampoo

Your Customers
will insist on the

Evan Williams'
HENNA
SHAMPOO

having been taught
by experience. Are
you ready to meet
their demands?

Stock moves freely
at a handsome profit.

Full particulars are included in The SHAMPOO SALESMAN, which is sent free on request.

The EVAN WILLIAMS CO., LTD.,
18 & 18a, Onle St., Foley St., London, W.1.



The Finest Quality
Aerated Waters are
made only with
the Finest Quality
ESSENCES

**BOAKE,
ROBERTS'**

Soluble Essences are
of the finest quality
and being extremely
concentrated are
most economical

| | |
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| Lemon | Ginger Ale |
| Orange | Stone Ginger (Cloudy) |
| Ginger | Clear Ginger Beer |
| Raspberry | Kola Champagne |
| Strawberry | Lime Juice and Soda |
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*A. Boake, Roberts & Co. Ltd.
Stratford, London E.15.*

**SAVE 3/- PER GALLON
BY BUYING
GUARANTEED GENUINE
NEWFOUNDLAND NON-FREEZING
MEDICINAL COD LIVER OIL
OF NEW SEASON'S MAKE.**

Highest possible quality in smell, taste and colour, comparing most favourably with the finest Norwegian. Manufactured from the finest fresh Cod Liver on same day as fish caught.

WHOLESALE ONLY.

Kindly write for sample to

JOB BROS., Manufacturers, Tower Building, LIVERPOOL.

Telegraphic Address: "JOB LIVERPOOL."

And at ST. JOHN'S, N.F.

Tel. 1039 CENTRAL.

Established 1780.

"John Bull"



MALT EXTRACT

IS THE BEST!!!

Wholesale & Export Only.

PAINES & CO., LTD., ST. NEOTS, HUNTS.

BIDWELL'S LTD.

RELIABLE TOOTH BRUSHES.

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| Gloria Silverdrawn, | 18/- |
| Mitre | 14/- |
| Elephant | 12/- |
| Anchor | 10/- |

GROSS LOTS NAMED FREE. CARRIAGE PAID.

We do not Sell Foreign Tooth Brushes.

A selected £10 parcel of Hair Brushes from 30/- to 10/- per doz., carr. paid.

Made at our Factories, AXMINSTER, DEVON.



SURGICAL DRESSINGS AND CHEMISTS' SUNDRY CO.

JUST RECEIVED.

CONSIGNMENTS OF

Tooth Brushes 4/9

*from
dozen.*

Hair Brushes 20/-

dozen.

EARLY INQUIRIES SOLICITED.

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Manufacturers,

Offices and Warehouse: 15-17 Worship Street,
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WHOLESALE.

CONTRACTOR TO
THE WAR OFFICE

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ACTUAL MANUFACTURER OF

CAMEL HAIR BRUSHES

FOR ALL ART AND MEDICAL PURPOSES.

Throat, Nose and Ear Brushes a Speciality.

PERCY P. BAKER,

Works: WALTHAMSTOW, ESSEX; and at ISLINGTON, N.

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ALDERSGATE, LONDON, E.C.

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G. B. KENT & SONS, LTD.

Are known the World over as
the Largest Manufacturers of

BEST BRITISH RUSHES

Please write for full Particulars to—

75 Farringdon Road, E.C. 1.

TOOTH BRUSHES

Price 20/- gross for the lot, or 9/- single gross
Sample dozen 8/-, cash with order

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BARDLEY'S
No. 96
SACK TRUCK

We are more than pleased
at the number of testimonials
we are receiving every week
as to the good value these
brushes are.

25 GROSS.
Full-size, with Trans-
parent handles.
Good quality.

Carriage Paid
37/6
Cash with order

BARDLEY'S, Specialist, FRINTON-on-SEA.

**CAMEL HAIR
PENCILS**
ALL SIZES

THROAT BRUSHES
Bent or Straight. Wire or Wooden Handles.

IODINE BRUSHES

**SHAVING
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With Boxwood, Metal or Bone Handles.
LARGE VARIETIES ALWAYS IN STOCK.
Also Puffs and Puff Boxes.

Wholesale & Export only supplied.

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The Mutual Traders

sell at lowest prices, guaranteed quality, CALL NUTS, LOOFAHS, MENTHOL, DANDELION ROOT, PEPPERMINT OIL, CHILLIES, CAMOMILES, and other DRUGS and natural products.

Sole Export Agents of the NIPPON JOCHUKIKU KAISHA, growers of Pyrethrum Flowers.

The Mutual Brush Company

manufacture and ship all kinds of BRUSHES (both formerly operating as the FUJI BRUSH COMPANY).

BEAR IN MIND THAT WE

1. ARE WHOLLY BRITISH AND AMERICAN.
2. GUARANTEE QUALITY.
3. NEVER FORGET THAT YOUR SATISFACTION MEANS OUR SUCCESS.

Telegraphic Address: "SIMSLAND."
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**24 Nakayamate Dori, 2 Chome,
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FEATHEREDGE Rubber Sponges

LARGE STOCKS ARRIVING

THOROUGHLY
SANITARY

AND
DO NOT
HARDEN

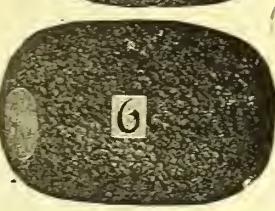
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Very
**GOOD
PROFITS**

for the
Retailer

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OBtainable
OF ALL
DRUGGISTS'
SUNDRIES
HOUSES



Markt & Co., London,

—LTD.—

American Merchants,
SOLE IMPORTERS,
98-100 CLERKENWELL RD.,
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ELECTRIC
POCKET LAMPS,
 TORCHES, HAND LAMPS, Etc.
IT'S WISE

To send for our **SPECIAL SAMPLE OFFER** of One Dozen complete lamps, assorted, carriage paid, for 27/6 net.

REFILLS

We can once more supply our famous

A.J.W. GREEN LABEL REFILLS
 so well known to many of our customers in pre-war days. They give

LONG LIFE. LARGE CURRENT.
New Season's Lists Now Printing.

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 Manufacturing Electricians,
 61 Eden Grove, Holloway, London, N.7.

Attract New Customers

This can be done by an attractive shopfront which enables you to display your goods to the best possible advantage.

The potential customer is attracted first of all by your shopfront, he or she stops and looks into the window—your goods create a desire to walk into the shop and see more—your salesman does the rest.

We will gladly keep any appointment you care to make to discuss the matter with you.

HASKINS

Shopfitters,

20-34 Old Street, London, E.C. 1.

Telephone—
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Issued by SAML. HASKINS & BROS., LTD.

THE EFANDEM CO. LTD.

BRITISH
 "TEC"
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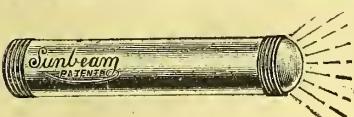
Manufacturers
 of T.E.C. Goods
 INCLUDING

BRITISH
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**Electric Pocket Lamps, Torches
 Hand Lanterns, Dry Batteries
 etc., etc.**

CHIEF OFFICES AND WORKS: **FALLINGS PARK, WOLVERHAMPTON**

Telegrams—"Efandem"
 Telephone—1123
 LONDON—22 NEWMAN ST., OXFORD STREET, W.1
 MANCHESTER—18 QUEEN ST., ALBERT SQUARE.

The "POPULAR" ELECTRIC TORCH.**The "SUNBEAM" POCKET ELECTRIC TORCH.**

Send for **NEW SEASON'S LIST** illustrating full range of Electrical Pocket Lamps, Torches, Hand Lamps, Medical Coils and Electrical Novelties.

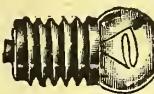
In view of the constantly increasing demand for these goods, Traders would be well advised to **ORDER NOW** to ensure immediate delivery.

Ward & Goldstone
SALFORD MANCHESTER
TRADE MARK



Electrical Pocket Lamps.
No. 909. Exceptional Value
Attractive cases, assorted colors, fitted with neat lenses, reliable switch. Complete with guaranteed batteries and metal filament bulbs.

13/6 doz. net.

**"VOLEX" METAL FILAMENT BULBS.**

Ensure the maximum burning hours from pocket lamp refill owing to their special low current consumption. $\frac{1}{2}$ and $\frac{3}{4}$ volts. From 4/- doz. net.

ACCUMULATORS suitable for ELECTRICAL Pocket Lamps and Torches.

The "Multum" Torch Accumulator. Suitable for Home and Export. Unspillable, clean in use, lasting and reliable.

2 Volt Type. Size $4\frac{1}{2} \times 1$ in. Weight 6 ozs.

Fits the standard large 2 cell case.

Price 4/- each net.

Complete with "Million" torch case and special metal filament bulb. Price 6/- each net.

4 Volt Type. Size $7 \times 1\frac{1}{2}$ in. Weight 9 ozs.

Fits the standard large 3 cell case.

Price 7/- each net.

Complete with "Elegansure" torch case and special metal filament bulb. Price 10/- each net.

The "Jewel" Pocket Lamp & Accumulator.

Fits all standard pocket lamp cases. Price 36/- doz. net. Thoroughly reliable. Many thousands have been sold. Special 2 or 4 volt accumulator bulbs suitable for above, 8/- doz. net. These bulbs ensure maximum burning hours.

POCKET LAMP DRY BATTERIES.

The "Volex"
(as supplied to H.M. Government).

By reason of the purity of the chemicals employed and a special process of manufacture the "Volex" Refills give highly satisfactory results.

Price 8/6 doz. net.

The "State"
Excellent quality.
Price 7/6 doz. net.

**BRITISH MADE****TIN FOIL**

Highly polished foils—printed, lacquered, embossed or plain. Guaranteed free from lead for tobacco, cigarettes, food-stuffs, etc. In sheets or reels—large or small quantities.

Also collapsible tubes in pure tin, pure lead or lead-coated with tin for rubber solution, artists' colours, tooth pastes and other toilet preparations.

Manufactured by

Venesta Ltd.
1. Great Tower St. EC
London
England

PILLS IN TURNED WOOD BOXES

Head and Stomach
Indigestion and Wind
Liver and Stomach

Boxes 12 - - 18/- gross, 1/9 dozen.
Boxes 18 - - 25/- " 2/4 "

Back and Kidney
Female
Gout and Rheumatic

Boxes 10 - - 18/- gross, 1/9 dozen.
Boxes 18 - - 28/- " 2/7 "

Arthur H. Cox & Co. Ltd. Manufacturing Chemists Est. 1839. Brighton

"Mr. Benger's
admirable
preparation."
The LANCET.

BENGER'S
Food
For INFANTS,
INVALIDS and the AGED.

55

On the P. A. T. A.

Minimum Retail Prices (Face value).

No. 0 size. No. 1 size. No. 2 size. No. 3 size.
1/4 2/- 3/9 7/6
per tin.

Wholesale of all Wholesale Houses and Shippers
or from the Manufacturers:

BENGER'S FOOD LTD.,—MANCHESTER, Eng.
Branch Offices: New York & Sydney. Depots throughout Canada.

ZEPTO PENCILS

The man who has shown this and then told us he could not sell it is still to be found, we certainly have not had his postcard yet.

THAT BIG P. A. T. A. 100 % PROFIT IS EASY

On window show terms. Our display ideas are winners, and so simple in construction that the harassed Chemist can put them up in a few minutes, and start picking up the profits almost immediately. If you have ever had one you will easily endorse this statement.

5/3 PER
DOZ. Write
the Postcard
now P.A.T.A. 9 D.
EACH

ADVERTISED TO PUBLIC CONSISTENTLY

THAT "MONS MAN" SHOW

Is a "gem" of its kind, being carried out in 12 colours, and the drawing executed by an artist of repute. Strong in selling argument, and "one" (as a visitor at a recent Exhibition said) "that would make a man get off a passing car." It is considered one of our best and should be ready shortly—Goes with a 6-dozen order, on display terms.

NOW IT IS THE SIMPLEST THING IN THE WORLD TO GET A POSTCARD AND WRITE "ZEPMONSIX" AND POST IT ON TO US—WE'LL SEND ALONG THE 6 DOZ. THAT EARN YOU THAT WONDERFUL PROFIT, AND SEE THAT A "MONS MAN" SHOW COMES ALONG AS SOON AS IT IS READY. ALL ORDERS IN ROTATION.

- Put your "sticker" on a postcard, scribble this
- "ZEPMONSIX"
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A Weekly Journal of Pharmacy and of the Chemical and Drug Trades.
ESTABLISHED 1859.

The CHEMIST AND DRUGGIST is in circulation and reputation the leading journal addressing the Chemical and Drug trades in the British Empire and other countries in the Old and New Worlds. It is the official organ of the Pharmaceutical Society of Ireland, the Chemists and Druggists' Society of Ireland, and of many Chemists' Societies in Australia, New Zealand and South Africa.

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Wills.

MR. RALPH WINNINGTON LEFTWICH, F.R.C.S., 36 Ebury Street, Grosvenor Place, London, S.W., who died on March 25, left estate valued at 5,722*l.* 5*s.* 9*d.* gross, with net personality 5,412*l.* 6*s.* 7*d.*

MR. THEOPHILUS HENRY BEAVAN LONG, Ph.C., 11 George Row, Northampton, who died on March 25 at Agra, India, left estate valued at 1,356*l.* 1*s.* 6*d.*, with net personality 1,146*l.* 1*s.* 2*d.*

MR. EDWARD THOMAS NORTON, chemist and druggist, The Square, Stow on the Wold, Gloucester, who died on May 7 intestate, left estate valued at 3,409*l.* 1*s.* 1*d.* gross, with net personality 1,887*l.* 8*s.* 10*d.*

SIR BOVERTON REDWOOD, Bart., 4 Bishopsgate, London, E.C., and The Cloisters, 18 Avenue Road, Hampstead, who died on June 4, has left estate of the value of 165,013*l.* 14*s.* 5*d.* The testator gives 1,000*l.* to his wife, 250*l.* and his practice to his brother Robert, Wayside Cottage, Bexhill. The résidue of the estate he leaves to his wife for life, and then as to one-third in trust for each of his daughters, and one-third in trust for his grandchildren, Thomas and Patricia.

POLISH EVOLUTION.—Polish pharmacists are at present fighting to emancipate themselves from the doctors, who for centuries have had the sole control over pharmacies and pharmaceutical affairs in the country.

English and Welsh News.

The Editor would be obliged if subscribers would send him marked copies of newspapers containing items of interest for insertion in this or other news sections of the "C. & D."

Health Insurance.

The Ministry of Health directs the attention of employers and others to the fact that by the National Health Insurance Act, 1919, which has just received the Royal Assent, the limit of remuneration up to which persons employed otherwise than by way of manual labour are liable to compulsory health insurance has been raised from 160*l.* to 250*l.* a year. Employers are accordingly required for the future to pay health insurance contributions in respect of persons employed by them under a contract of service as follows: For *non-manual* workers, where the rate of remuneration (including any regular bonus, etc.) does not exceed £250 a year. For *manual* workers irrespective of the rate of remuneration. A non-manual worker whose remuneration is over 160*l.* a year but not over 250*l.* a year may, within a limited period and under certain conditions, claim a certificate of exemption, and on the grant of such a certificate the employer's contribution (3*d.* a week) is alone payable. Forms of application for exemption will be obtainable shortly at any Post Office.

New Food Orders.

The Food Controller has issued an Order, entitled the Cereals (Restriction) Order, 1919, which, *inter alia*, prohibits the use of wheat for any purpose except the manufacture of flour or for use as seed, and also prohibits the use of wheaten flour, rice, or rice flour, or any article containing the same, except as human food or for the purposes of human food. The Food Controller has also decided to reimpose control of the importation of maize flour and maize meal, and has requested the Royal Commission on Wheat Supplies to take the necessary action. The Royal Commission have accordingly given notice that the restrictions imposed by their directions, dated December 12, 1918, in so far as they affect maize products, shall be reimposed on and after August 18.

Maximum Prices for Oil Cakes.

The Board of Agriculture announce that the following maximum prices for home-manufactured cakes and meals have been agreed upon between the Ministry of Food and the makers: Linseed cake, containing from 8 to 10 per cent. oil, 25*l.*; cottonseed cake (black), 20*l.*; ditto (white), 19*l.* 10*s.*; palm kernel cake (in bulk), 17*l.*; extracted palm kernel meal (in bags, gross weight), 17*l.*; ground-nut cake, decorticated, 24*l.*; ditto, semi-decorticated, 22*l.*; ground-nut cake, undecorticated, 21*l.*; soya cake, 25*l.*; extracted soya meal (in bags, gross weight), 25*l.*; coconut cake (in bulk), 21*l.*; rape cake, 18*l.*; extracted rape meal (in bags, gross weight), 18*l.*; sesame cake, 23*l.* 10*s.* These prices are net cash per ton *ex* mill Hull, London, Bristol, and Liverpool to the farmer.

Birmingham.

Needham & Co., Ltd., chemists, New Street, are having extensive alterations made, including a new frontage to their premises.

Mr. Gilbert Barling, Vice-Chancellor of the University of Birmingham, has been created a baronet. He is an eminent surgeon.

The *locum tenens* difficulty is still with us in spite of the cessation of the war and demobilisation of the young pharmacist. It is not the scarcity of the men that is causing the trouble, but the extravagant rate of payment required (1*l.* per day).

Candidates for the alternative form of the Combined Universities War Matriculation Examination must take the examination within six months of the date of their demobilisation or discharge. Those who left the Army before August 1, 1919, may sit any time up to but not later than December next.

Students applying for Government grants should be quite sure before taking up their course of study that their agreements with the Government are in order and

understood by both parties. In a case recently a medical student, who had spent six months of his medical curriculum, received a typed circular from a departmental official informing him that his application for assistance could not be entertained. Other cases have also occurred locally.

Liverpool.

Several suburban pharmacies are stated to be on the market, the proprietors wishing to be free from business cares for a year or so, and then to reopen in other areas and on more or less new lines.

"Zeppi" blinds are being removed from the windows of local pharmacies. The increased light will be welcomed in the streets, which are so ill-lit that with the depleted police staff it is not surprising that window-breaking and door-forcing have recurred this week.

Ayrton, Saunders & Co., Ltd., have abolished the numerous teapots hitherto circulating among their staff of over 600 girls. The company now serve tea by means of urns, wagons, wooden trays, and lift from floor to floor, and as a result economy of labour and comfort are achieved.

Social and industrial unrest still reacts on the retail trade, but the growing variation in stocks and window-displays indicates enterprise in seeking to recover leeway. The resumption of the tramway service, coupled with the increase of motor-omnibuses on supplementary routes, helps to send traffic through the quieter streets, all to the advantage of business.

Mr. H. Humphreys Jones, A.I.C., has resumed his classes this week in the new School of Pharmacy, 2 Blackburne Place. The latest home, which was formerly the residence of Mr. Rigby Swift, K.C. (ex-M.P. for St. Helens), is a fine mansion with spacious ground for motor and cycle sheds, recreation, or outdoor demonstrations. The many rooms are devoted to lecture hall, chemical laboratory (eighty-four benches, compared with thirty-six in the old school), histological laboratory for botanical and microscopic work, a dispensary for practice, a laboratory for volumetric and gravimetric work, library, office, and cloakrooms. In short, the school is housed and equipped in accordance with modern educational developments.

Manchester.

Dr. John K. Wood, who for the last twenty years was principal assistant in chemistry at the Dundee College, has been recently appointed to a lectureship in physical chemistry in the Manchester College of Technology.

Sheffield.

The Annual Statement by the City Treasurer shows that the Infants' Welfare Department sold 8,520*l.* of dried milk, making an apparent profit of 310*l.*

Eardley & Furnival, Glossop Road, have an attractive display of bay rum and shampoo requisites exhibited on pedestal stands with mirrors as background.

Some misunderstanding exists locally on Insurance dispensing. Everything ordered (other than non-scheduled appliances) should be supplied, the responsibility resting with the practitioner.

Mr. J. Gilbert Jackson is to be congratulated on his election as a member of the Local Associations Executive for the panel sections, especially as he contested the seat as an independent candidate.

There has been a great falling off in Insurance dispensing this last month, and a deputation from the Pharmaceutical Committee has met the Sub-Committee of the Panel Committee with a view of securing shorter hours. The Panel Committee are to consider the matter.

Miscellaneous.

ENEMY PATENTS.—Samuel Cutler & Sons, Ltd., have been granted licences to use six of the Messerschmitt patents for the manufacture of hydrogen.

WINE LICENCE TRANSFERRED.—The wine licence held by the late Mr. W. R. Maud, J.P., chemist and druggist, Market Place, Pontefract, has been transferred to Mrs. Maud.

MINISTRY OF HEALTH COUNCILS.—An Order establishing the Ministry of Health consultative councils has been made, and is printed in the "London Gazette," July 12. It follows very closely the draft order which was given in the *C. & D.*, July 12, p. 48.

IN THE COURTS.—At Westminster Police Court, London, on August 14, H. E. Rearman, Barnardo Street, E., was fined 5*l.* for causing a mare affected with parasitic mange to be driven in public.—At Thames Police Court, London, on August 14; a Chinaman was fined 50*l.* for harbouring 1½ lb. of opium.

THE BRITISH OPTICAL ASSOCIATION is applying to the Privy Council for the grant of a charter of incorporation. During the war the Association worked in close touch with the Army Council and Army Medical Department in the supply of spectacles for the troops, and lent its premises at Clifford's Inn for the Army Spectacle Dépot.

DRUG-TRADE DISPUTE.—The dispute between the Amalgamated Society of Pharmacists, Drug and Chemical Workers and the Drug and Fine Chemical Manufacturers' Association remains unsettled. A scheme was formulated, but it has now been rejected by the men's union. The matter in dispute, which includes improvements in wages and hours, will be submitted to arbitration after the men's views have been obtained by means of the ballot.

ADVERTISING BY AEROPLANE.—Boots, Ltd., chemists, are promoting an advertising scheme this week, in conjunction with the Avro Co., Ltd., which runs aeroplane flights at the sands, South Shore, Blackpool. Customers at the Blackpool, South Shore, Fleetwood, and St. Anne's branches of the company receive vouchers for the customer's name and address, and during the week 150 of these will be drawn by the Mayor and other leading citizens. Each lucky recipient will receive a ticket for a free air flight.

PARCEL POST TO AUSTRIA.—Parcels can again be accepted for transmission to Austria (States of Upper and Lower Austria, Styria, Carinthia, Salzburg, Northern Tyrol, Vorarlberg, and Liechtenstein). The rates of postage are: Up to 3 lb., 1s. 9d.; over 3 lb. but not over 7 lb., 2s. 1d.; over 7 lb. but not over 11 lb., 2s. 5d. Two non-adhesive Customs declaration forms are required for each parcel. The limit of insured value is 200*l.* per parcel. Prohibited articles are letters, arms, and ammunition.

SURPLUS TINS.—The millions of tin receptacles which the State is now releasing are expected to help materially to improve the supply. Stocks for immediate sale, according to the Disposal Board, include 20,000 at Deptford which are suitable for storing foodstuffs, 43,000 at the various warehouses of the Ministry of Food which were intended to contain Army biscuits, 7,000 at Woolwich suitable for artists, and 300,000 at Shepherd's Bush.

SALE OF FOOD AND DRUGS ACTS.—In the latest quarterly report of the Durham county analyst it is stated that a sample of camphorated oil was found to contain 20.28 per cent. of camphor and 79.72 per cent. of a mineral oil. The bottle containing it was labelled: "Camphorated Oil, full strength—prepared without olive oil." The report adds that, in view of the protecting label and the undertaking of the manufacturers, "a highly respectable firm of wholesale druggists," that they are now using olive oil in making camphorated oil, the analyst did not consider it prudent to take any further action in the matter.

Poisonings.—The cases of poisoning of which reports have reached us since last week include the following: Dr. Bertram Shera Wills, a Leicester doctor, was found dead in bed with an empty bottle beside him that had contained strichnine.—A Liverpool lad named Ellison (13) took phosphorus paste with fatal results owing, it is stated, to "some bothen with a girl."—Kate Thompson (25), assistant to Mr. C. W. Ridyard, chemist and druggist, Codnor, died from prussic-acid poisoning. She had been at Codnor for five months, and no reason can be given for the rash act, as she appeared perfectly happy and comfortable in her situation.—A Merton millwright named Hooper (73) committed suicide with vitriol after suffering for some time from insomnia.

Irish News.

Brevities.

On August 6, at the Graigue Petty Sessions, Mr. W. P. Kennedy, Ph.C., Borris, was charged at the suit of Mr. A. T. Ferrall, Registrar of the Pharmaceutical Society of Ireland, with keeping open shop at Graigue for compounding medicines and having an unqualified chemist therein. Mr. Kennedy said he had intended to get a qualified man shortly. The Chairman, in imposing a fine of 18*l.* (6*s.* for each day), stated that Kennedy was liable to a fine of 1*l.* per day.

At Tullinamoyle, Co. Leitrim, Martin McMorrow was found to have taken Jeyes' Fluid after killing his wife. The police discovered the couple dead, with their two children who had been suffocated, but whether wilfully or not there was no evidence to show. The jury found a verdict of murder against the man in respect of his wife, and that he had met his death by drinking Jeyes' Fluid. In a rider the jury considered the man to be insane when he committed the acts.

Belfast.

The partnership between Mr. T. J. May and Mr. H. McRoberts, carrying on business as wholesale druggists at 63 Victoria Street, Belfast, under the style of May & McRoberts, has been dissolved by mutual consent. Mr. May will continue the business as May & Co., and Mr. McRoberts has accepted an appointment "on the road" for H. C. Quelch & Co., London.

Mr. Thomas J. Eglinton, R.D., has taken over the branch shop of Mr. James Dundee, Ph.C., 136 Sandy Row, Belfast, hitherto carried on under the title of James' Medical Hall. Mr. Samuel Orr, Ph.C., has acquired Mr. Dundee's branch shop at Holywood, Co. Down. Mr. Orr was previously with Mr. Adam Gibson, Ph.C., Belfast, where Mr. Eglinton was an assistant. Mr. Orr and Mr. Eglinton served their apprenticeship with Mr. T. Hanna, J.P., R.D., Carrickmacross.

Sampling Drugs.

An important point under the Sale of Food and Drugs Acts on the taking of samples was raised in a recent prosecution at Larne Petty Sessions, in which Mrs. Isabella Howard, Magheramorne, was summoned for selling Epsom salts containing an undue proportion of arsenic. The Food and Drugs inspector said that on June 18 he purchased from the defendant three small packets of Epsom salts for analysis. He sent one packet to the public analyst, and put in the certificate of analysis received. He knew that defendant had bought the packets from a Larne grocer. Counsel for the defendant submitted that the prosecution could not succeed, relying on the method adopted by the inspector in taking the samples. He contended that the proper method would have been to mix the contents of the three packets, and then divide into three portions. He quoted in support cases which had been decided in the superior courts. The inspector said he took the samples as instructed by his department, and asked, if the case went against him, that the Court should order one of the other packets to be sent for analysis. The Court held that the method of taking the samples was not proper, and for the same reason they could not order that one of the other packets should be sent to Somerset House. They therefore dismissed the case.

Scottish News.

Brevities.

Since "unexamined" is regarded by the railway companies as a clear signature, a Scottish chemist signs "damaged" for all goods, so that his signature may not be legally twisted.

Wholesalers are now "postcarding" chemists, urging the early return of empties. New hampers cannot be purchased from the manufacturers. The railway and carrier companies are alleged to be greatly to blame for the tardy delivery of empties.

Many chemists have adopted the provisional dispensing prices of the Scottish Chemists' Retail Price List. "It might be well worth the trouble," writes a correspondent, "for the Trades Committee to approach the large companies with a view to their acceptance of the minimum charges. Better remuneration is as necessary for the 'large' as for the 'small' chemist."

Mr. G. R. Thomson, chemist and druggist, Elgin (and son of Mr. R. Thomson, chemist and druggist), captained the Moray Golf Club team which, during two days' play on the course of the Royal Aberdeen Club at Balgownie, defeated Deeside, Aberdeen University, Peterhead, and Inverness, and thereby won the Northern Counties Golf Championship Cup. Mr. Thomson is referred to by the Press as one of the finest golfers in the North. He has at different times won golf honours, including Cruden Bay tournament in 1908, Nairn tournament, and the Moray Golf Club Championship. He is engaged in his father's business in Elgin.

Dundee.

A public notice appeared recently in the local Press drawing the attention of methylated spirit retailers to the increasing consumption of this obnoxious fluid as a beverage. It appealed for the retailers' co-operation with the Local Authority in putting down the practice by exercising whatever precautions they may deem advisable in restricting the sale of methylated spirit.

Edinburgh.

Business locally has been quieter this month.

A fire occurred at Cox's Glue Factory, Edinburgh, on August 18. The damage is estimated at over 30,000*l.*, and about 150 employés will be thrown out of work.

The ancient ceremony of "Riding the marches" was celebrated in Musselburgh last week. A hopeful sign of the times was a glimpse the writer caught of a chemist's window display of sponges, priced sixpence each.

Emeritus-Professor Greenfield, whose death was recently announced, was professor of pathology and clinical medicine at Edinburgh University from 1881 until 1913, when he retired. He was one of the leading pathologists of his day, and several of his works are regarded as ranking among the classics of the profession.

For some time Raines, Clark & Co., Ltd., have issued a monthly summary of advanced and reduced prices of drugs in handbill form. On the reverse side of the circular they now print "Notes on Present Conditions," as a guide to buyers. The idea is good and likely to result in increased business for the company, while up-to-date chemists appreciate the information.

Glasgow.

The lectures delivered in 1917-18 by Prof. F. O. Bower (Glasgow University) and others on "Sex and Heredity" are being published in book form.

The Tutorial College, Ltd., 30 Elmbank Crescent, Glasgow, has extended its organisation to provide specialised coaching for the Preliminary, Qualifying, and Major examinations. Finely equipped laboratories and a lecture-room, furnished with all the necessary apparatus, are devoted exclusively to pharmaceutical studies. The college prospectus, which gives details of courses' and fees, may be had on application.

The third rink game of the bowling section of the Glasgow Pharmacy Athletic Club was played on the Bellahouston Bowling Club Green on August 19, with the following results:

| | <i>Skips</i> | | <i>Skips</i> | | <i>Shots</i> |
|----------------|--------------------------|----|--------------|----|--------------|
| H. P. Arthur | ... 19 v. J. T. Simpson | 9 | = | 10 | <i>up</i> |
| D. G. McKenzie | ... 19 v. Geo. Macdonald | 12 | = | 7 | |
| J. Logan | ... 19 v. H. G. Gray | 15 | = | 4 | |

The players in Mr. Arthur's winning rink were Messrs. T. McNair, A. Watt, A. J. H. Saunders, and H. P. Arthur, and the prizes were four pocket-wallets, which were presented by Munro, McLaren & Sutherland. It is hoped that a game between North and South Glasgow will take place on the Wellcroft Club Green on September 2.

French News.

(From the "C. & D." Paris Correspondent.)

NEW METCHNIKOFF FORMULA.—M. Paul Duret, pharmacist major, attached to the "dermato-venereological" service of the French Army, proposes to modify as follows Metchnikoff's formula for prophylactic calomel ointment, to provide a more active preparation :

| | Grms. |
|------------------------------------|-------|
| Precipitated calomel | 10 |
| Crystallised chloride of magnesium | 10 |
| Bicarbonate of soda | 7 |
| Thymol | 0.15 |
| Camphor | 0.35 |
| Glycerin of starch | 15 |
| Arachis oil | 15 |
| Anhydrous lanolin | 20 |
| Distilled water | 25 |

DAYS OF TERROR.—From the official report of January 7, 1915 (Lorraine) : Lunéville was occupied by the Germans from August 21 to September 11, 1914. . . . During the first few days they only pillaged. . . . On September 25 their attitude changed. Next day . . . at 1 p.m. M. Riklin, pharmacist, having been told that a man had fallen thirty yards away, went and found his brother-in-law, M. Colin, sixty-eight years of age, shot in the abdomen. The Germans pretended he fired upon them, but M. Riklin formally denies this. At Nomény (August 20) M. Prevot, seeing the Bavarians rush into the pharmacy of which he had charge, said that he was the pharmacist and would give them all they wanted, but three reports were heard and he fell. Two women who were with him fled, pursued with blows from the butt end of rifles, near to the station, where they saw numerous corpses.

PARDONED BY THE KAISER.—A somewhat painful but interesting case is the prosecution of Toqué and other French citizens for aiding and abetting the excesses of the German invaders in the regions of France lately occupied by the enemy. Among the obscure dramas is that of M. Cavalier, pharmacist, at Assis-sur-Serre. When the French retreated he had fifty-eight wounded men under his care. One of these soldiers was too feeble to be sent away with his comrades before the German troops arrived, but M. Cavalier would not allow him to leave his house, and declared to the Germans that this was his nephew, a student, who happened to be on a holiday visit to the village when the war broke out. His tale was only half believed, and the pharmacist was closely watched. He succeeded in keeping up the deception for a year and ten months, but was finally denounced by Resselle (one of the traitors now on trial) and condemned to death. M. Cavalier, the father of seven children, was saved from execution only by the granting of a pardon by the Kaiser, who happened to be passing through Laon.

PARIS SCHOOL OF PHARMACY.—Before handing over to the French War Office archives the films which were used for the instruction of officers at the Paris School of Pharmacy during the war, Captain Nebout, of the War Chemical Plant Technical Services, exhibited them at a farewell lecture in the amphitheatre of the school before an audience comprising the professors, other members of the school staff, and the students, and before explaining his "dissolving views" Captain Nebout publicly thanked the school authorities for the use of the premises. Sometimes so many as 340 officers came in one week to listen to the lectures on the military uses of gas, and some 12,000 in all passed through the school. In the Council Hall the "Inter-Allied Gas Council" met half-yearly, and between October 25 and 31, 1918, French, American, British, Belgian, Italian, and Japanese delegates sat together for the last time. Three of the professors—MM. Moureu, Lebeau, and Delépine—gave weapons both of offence and of defence to France. MM. Defacqz, Damiens, and Tas-silly had indefatigably and even gaily performed their arduous duties as laboratory directors, lecturers, or testers of masks. Among the higher schools and colleges the School of Pharmacy has taken premier place in the preparation for chemical warfare.

Netherlands Notes.

(From the "C. & D." Correspondent.)

BIGGER SALARIES REQUIRED.—The salaries paid from the sick-funds in Utrecht being deemed insufficient, the pharmacists and physicians have made a proposal to levy a higher contribution from the members. This the directors of the funds have refused to do, and, as a protest, the pharmacists and physicians have decided to refuse to accept new members as patients.

MORE WORRIES FOR PHARMACISTS.—A new labour law has recently been passed in the Second Chamber of the States-General in Holland that will greatly affect the conditions under which assistants and errand-boys, etc., work. The special circumstances governing labour in pharmacies appear to have been ignored. It will be very difficult for pharmacists to comply with the new law's stipulations without coming into collision with the rigorous decrees of the Pharmacy Act.

ANALYSTS FOR DUTCH EAST INDIES.—In the 1920 Budget for the Dutch East Indies is mentioned the sum of 21,160 florins for the training of analysts (for bacteriological, serological, pharmaceutical, and chemical laboratories). It is proposed to unite the courses with the training of apothecaries' assistants, and partly also with that of sanitary inspectors, who are responsible for practical hygienic measures. It is suggested that in 1920 fifteen analysts or sanitary inspectors should be trained.

HOLIDAY LECTURES IN Utrecht.—About seventy Dutch pharmacists will participate in the holiday courses to be held in the pharmaceutical laboratory of the Utrecht University in August and September. Lectures will be given from August 25 to 30 by Professor Kruyt on "The Chemistry of Colloids," by Professor Schoorl on "Qualitative Microchemistry," and by Professor de Graaff on "Principles of Bacteriology." During the second week (September 1-6) the following courses will be held : Professor van Wisselingh on "Phytomicrochemistry," Professor de Graaff on "Examination of Pathological Urine," Dr. Steensina on "Microscopy of Pathological Products," Dr. de Waal on "Bacteriological Examination of Water," and Dr. Kolthoff on "Concentration of Hydrogen Ions." The following evening lectures will be held : Mr. Jacobs on "The Structure of Atoms," Professor van Romburgh on "Rubber," and Professor Pulle on "The Flora of the Moors."

DOCTORS' DEGREES FOR PHARMACISTS.—The new Limburg law that permits persons, who have not had a classical education, to obtain the doctor's degree in medicine and pharmacy, has set many pharmacists to work in this direction. The following are the Dutch pharmacists, with their theses, who have already obtained the degree : H. J. van Giffen ("Some data about the detection of parts of poisonous Indian plants"); T. M. Kolthoff ("Principles of the iodometric, volumetric analysis"); H. H. Janssouius ("Tangential growth of some pharmaceutical barks"); C. Blomberg ("Contribution to the knowledge of the theory of electrolytic dissociation"); J. Blomberg ("Contribution to the knowledge of strophanthus seeds and galenic preparations"); J. J. Vermande ("Microchemical tests of metals with rubidium and calcium-chloride"); Miss A. Regeubogen ("Molecular compounds of phenazone and other pyrazolon derivatives"); C. L. de Fouw ("Action of organic acids on metals"); J. W. de Waal ("The water of the Neder-Beturve, bacteriological and chemical examination"); J. Temminck Groll ("The influence of physical and chemical factors on the action of ferments"); A. Groothoff ("Rational exploitation of cinchona-plantations and the factors influencing barks and their quinine-content"); J. P. van der Marel ("Contribution to the knowledge of selective permeable properties of the seed capsule"); A. C. Pliester ("The methods for detection of adulteration of milk"); J. Pinkhof ("The application of electrometric, volumetric analyses"); J. J. Hofman ("Contribution to the knowledge of Indian grass-oils"); B. A. van Ketel ("The methods for examination of cinchona and new methods for the determination of the alkaloids").

India and the East.

(From the "C. & D." Correspondents.)

BENGALI YOUTH'S DISCOVERIES.—According to a recent report, a young Bengali lad named Mr. E. Dutt has made discoveries which are calculated will be of value in the development of the chemical industries of India. Among these discoveries are new methods of producing methane, sulphur (from gypsum, which is plentiful in several states in India), carbonate of soda, alum, and potash. Mr. Dutt, who was a pupil at St. Paul's School, London, is only seventeen years of age.

"**CASH CHEMISTS.**"—Before Mr. Justice Kajiji, Commissioner of the Insolvency Court, Bombay, Mr. J. B. Kanga appeared for Ramdas Sangaldas, a firm carrying on business as shroffs, and applied that Kaikhushru Munchershaw Madon be adjudged insolvent. The petitioners stated that the debtor carried on business at Hornby Road, in the name of "Cash Chemists," and at Mayo-Road in the name of "Indo Foreign Agency." He was indebted to them for Rs. 1,200, being the balance amount due on a promissory note dated May 1, 1919, and payable sixty-six days after date. The note became due on July 10, but the amount remained unpaid. The petitioners further stated that within three months prior to the date of presentation of the petition the debtor made a transfer of his property in favour of Aboo Noor Mahomed Cassum with intent to defeat or delay his creditors, and he gave notice to his creditors that he had suspended payment of his debts. The Judge declared the debtor insolvent.

EPIDEMICS AND OVERCROWDING.—The Sanitary Commissioner to the Government of India, writing on the influenza epidemic, which caused so many deaths in 1918, thinks that the use of disinfectant sprays and gargles is not to be recommended. He considers a solution of common salt (one teaspoonful to 20 oz.) would be more likely to be productive of good results as a gargle, or snuffed up the nose. In the large towns in India, and especially in the seaports, the evil result of overcrowding has, no doubt, much to do with the spread of influenza and many other diseases. As municipalities are formed in most Indian towns the landlords of lodging-houses are usually strongly represented on the committees, and do their best to prevent any interference with what they consider their vested rights. The matter is one which, in the interests of the poorest and most unimportant classes, should be early taken in hand, and legislation should make it possible to prevent the present overcrowding and to ensure proper ventilation. Science has done much within the last hundred years towards making life in large cities more healthy and comfortable for those who reside in them. This is especially noticeable in tropical countries: for instance, in the Panama Canal zone the Americans succeeded in abolishing yellow fever. It is undoubtedly within the power of the British Government to do as much towards the health and comfort of millions of our fellow-subjects in many parts of India. In large Indian towns the inhabitants should have a sufficiency of air-space in every lodging-house in municipal areas. Indian landlords are chiefly to blame for the present horrible state of slum lodging-houses in so many Indian cities. The prominent reformers who talk so much and so loudly on the advantages of self-government are most certainly aware of the laws of sanitation, and the evils which follow the neglect of them. It is to them one should naturally look for dissemination of their knowledge on these points among the more ignorant of their fellow-countrymen. But from reports of their speeches at public meetings, which appear from time to time in Indian newspapers, they would seem to treat such matters with apparent neglect. Medical statistics prove clearly that the deaths in India from malaria and other preventable diseases far outnumber those from any other cause. It is to be hoped that the much-talked-of reforms shortly to be introduced will help to bring about a desirable change.

Colonial and Foreign News.

OPPAU WORKS CLOSED.—Disorderly behaviour on the part of the employés has led to the closing down of the Oppau works by the Baden Aniline and Soda Factory in Ludwigshafen.

BELGIAN BILL FOR DAMAGES.—According to the estimate of the Belgian Comité Central Industriel, Belgian Chemical Works sustained damages, as a result of the Hun invasion, amounting to 229,000,000 fr.

ITALIAN DOCTORS' PATRIOTIC EFFORTS.—The national union of Italian doctors recently held a meeting in Milan to discuss what steps could be taken to emancipate the Italian chemical and pharmaceutical industries from foreign influence. The meeting decided to call together a national congress, in which all interested parties will be represented, to discuss this object.

SOCIALISATION IN PRACTICE.—The Carl Zeiss Foundation, comprising the Carl Zeiss optical and scientific apparatus works and the glass works, Dr. Schott & Co., is an example of a successful business conducted with a staff of employés enjoying a legal, economic and social status which is capable of forming a basis for future socio-industrial law. It is a "public utility" foundation, the profits being expended in the permanent interests of the community—for example, for the partial upkeep of Jena University; to support a sick-children's hospital, reading-rooms, municipal works, etc. The improvement of the workers' lot is also undertaken. Each employé is treated without regard to his origin, religion, or political opinion, efficiency and service alone determining his promotion. The eight-hour day was instituted in 1900. The right to compensation on dismissal practically secures the employé against arbitrary dismissal. There were no strikes before the war, and in the strike demonstrations held everywhere in Germany in February 1918 it was clearly shown that the strikes were against the Government, and not against the firm. Both time and events have, therefore, tested the organisation founded by Dr. Abbe thirty years ago.

GLAXO TRADE-MARK.—The litigation in Australia on the agreement between Joseph Nathan & Co., Ltd., of New Zealand, and the original Bacchus Marsh Co., Ltd., of Victoria, has advanced another stage. The letters patent and processes for the manufacture of powdered milk were sold to the Bacchus Marsh Co., and Nathan & Co. undertook, during the remainder of the term of the patent, not to be interested in the manufacture or trade in these goods in Australia, and to grant the Bacchus Marsh Co. a licence to import and sell in Australia the preparation Glaxo for that period. On the expiry of the patent the Bacchus Marsh Co. contended that Nathan & Co. could not import or sell Glaxo or any dried milk in the form of a powder in Australia, and that the Bacchus Marsh Co. had acquired the goodwill for Australia and the right to use the trade-mark Glaxo. Nathan & Co., Ltd., state that when the patents expired the provisions in the agreement did not affect their right as to Glaxo in Australia. On September 18 last year Mr. Justice Cussen found in favour of Nathan & Co. as to products of the inventions and processes referred to in the patents other than dried milk or milk powder, restraining the Bacchus Marsh Co. from using the trade-mark Glaxo or selling goods under that name, and Nathan & Co. from manufacturing or selling "dried milk or milk powders," except as already mentioned. Both parties appealed to the High Court, and on May 12 judgment was given, according to which Nathan & Co. may manufacture, import to, and sell in Australia the products of the patent for manufacturing dried milk, and also sell their infants' food under the trade name of Glaxo. The restriction against manufacturing, importing, or selling dried and powdered milk was struck out. The Bacchus Marsh Co. announced that they will immediately apply to the Privy Council for leave to appeal against the decision of the High Court as far as it is not in accordance with what the agreement intended to give to the company.

Legal Reports.

Venereal Disease Act.—The appeal of Mr. W. Shadforth, Ph.C., and Mr. John Wilson, chemist and druggist, against their conviction under the Venereal Disease Act (*C. & D.*, August 16, p. 67) will be heard in the Court of Criminal Appeal on August 28.

Medicine-stamp Act.—At the East Ham Police Court on August 14, before Mr. W. J. Grubbe, Charles Barton (trading as Mendall), a bootmaker, 472 High Street North, Manor Park, was summoned, at the instance of the Customs and Excise Commissioners, for that he did utter, vend, and expose for sale and keep ready for sale a medicine liable to duty without having a licence in force. Mr. Rooth prosecuted for the Commissioners, and stated that on June 17 an Excise officer went to defendant's shop, and there purchased a bottle of "Lawrence's essential oil camphor." Defendant should have held a licence to authorise him to sell such an article. Defendant said he had sold the medicine for seven years before he went into the Army, and he had sold it since. The firm from whom he bought admitted that no duty was paid on it, and he was given to understand that no licence was needed to sell it. He added that other summonses had been taken out against sellers, but the prosecutions had failed. An Excise officer said the medicine was liable to stamp duty if sold by an unlicensed dealer, but it was exempt if sold by a qualified chemist or by a licensed person. Mr. Grubbe: He implies there has been some decided case. Mr. Rooth: I know of none. Mr. Grubbe (to defendant): I do not think you have any right to sell it without being licensed; I will take a lenient view and impose a penalty of 10s. You are liable to 20*l.*

New Companies and Company News.

P.C. means Private Company and R.O. Registered Office.

KALCHESTER MANUFACTURING CO., LTD. (P.C.).—Capital, 5,000*l.* Objects: To carry on the business of manufacturing chemists, druggists, drysalters, oil and colour men, manufacturers of and dealers in toilet requisites, etc. R.O., 1 Williamson, Reddish.

FRANKLIN CHEMICAL CO., LTD. (P.C.).—Capital, 20,000*l.* Objects: To carry on business as manufacturers, importers and exporters of and dealers in chemicals, drugs, oils, paints, dyestuffs, pharmaceutical, medicinal and other preparations, etc. Solicitors: Linklater & Co., 2 Bond Court, Walbrook, London, E.C.

GEORGE J. TAYLOR & CO., LTD. (P.C.).—Capital, 3,000*l.* Objects: To take over the business of wholesale chemists and druggists, manufacturers of and dealers in methylated spirit, paint and enamel manufacturers, etc., carried on at 384 London Road, Lowfield, Sheffield, by G. J. Taylor. R.O., 384 London Road, Lowfield, Sheffield.

JOHN OAKLEY & SONS, LTD.—The directors announce an interim dividend of 5 per cent. (10*s.* per share), less tax, on the ordinary shares.

THE COMPAGNIE COMMERCIALE DU NORD, 21 rue Kipdorp, Antwerp, has been converted into a limited company, with a capital of 1,000,000 francs. The new company will continue to devote itself to the importation and exportation of merchandise in general, and chemicals, drugs, and associated products in particular. The London and Paris branches will be carried on as before.

COMPANIES WHICH MAY BE WOUND UP.—Notice is given in the "London Gazette" that at the expiration of three months from July 22 the names of the undermentioned companies will, unless cause is shown to the contrary, be struck off the Register and the companies will be dissolved: Chemical Conversion Co., Ltd.; Nitrogen Recovery Co., Ltd.; Pharmacy and Drug Store Supply Association (Lancashire), Ltd.

Association Affairs.

Leeds.—The newly formed Leeds Chemists' Assistants' Association has enrolled an encouraging number of members, and assistants or apprentices in the district may obtain information regarding the organisation from Mr. J. Pendlebury, 69 Reginald Terrace, Chapeltown, Leeds.

Wolverhampton.—A meeting of the Wolverhampton Chemists' Association, to which all qualified chemists were invited, was called by the President (Mr. C. M. Warner), and held on July 30, to consider the by-law. Mr. S. Phillips (treasurer) reported on the meeting of Association officers held on July 25. A resolution was passed expressing confidence in the Pharmaceutical Council and asking that, in important matters, Council members should visit Local Associations with further information.—Another meeting of the Association was held on August 11, Mr. C. M. Warner (President) in the chair, at which consideration was given to a letter advocating the boycotting of patent medicines which yielded less than 20 per cent. profit. It was resolved that the Proprietary Articles Trade Association is the best medium for dealing with the profits on patent medicines. A discussion of the Local Associations' Executive election resulted in a resolution recommending members to vote for Messrs. Joseph and H. O. Lloyd.

Insurance Act Dispensing.

A Record of matters concerning Chemists' interests in the National Health Insurance Acts.

Reports from Local Centres.

ENGLAND.

Essex.—At a recent meeting of the Pharmaceutical Committee, Mr. T. England presiding, the Selection Committee (Messrs. England, Catto, Nichols, and Slater) reported on the applications from candidates for the vacant secretaryship. It was unanimously resolved that Mr. S. G. Tydeman, chemist and druggist, be appointed from September 1. Mr. Tydeman comes with excellent credentials from Somerset, where he was secretary from the inception of the National Insurance Act, and where he did much propaganda work. The Committee has arranged that his services will be available among Essex chemists for *locum* work for two to three days at a time. This work is not to interfere with his duties as secretary. Applications should be made direct to him, and will be subject to the approval of the Executive Committee.

Liverpool.—The annual report of the Pharmaceutical Committee, which has recently been issued, shows that, the total number of pharmacists on the panel at the beginning of 1919 was 293, as compared with 291 the previous year. The Checking Bureau reports are stated again to be satisfactory, and all chemists' accounts are now paid promptly by the 15th of the month. During the present year, however, it may be found necessary to arrange for full payment on the 15th of the second month on account of the considerable labour the present system necessitates. During the year no complaints were brought to the notice of the Pharmaceutical and Joint Service Sub-Committees. The inadequacy of the tariff terms is alluded to, and it is pointed out that acceptance was made so that national pressure for more suitable remuneration could be adopted in 1920. The number of prescriptions dispensed (including those relating to sanatorium benefit and temporary residents) was 636,681, at an average cost of 7.66*d.* (in 1917, 617,283 were dispensed at an average cost of 6.71*d.*).

Wolverhampton.—A meeting of panel chemists was held on August 11, at which Mr. S. Phillips (Vice-Chairman) presided. It was resolved to adopt the recommendation of a reduction of the levy from $2\frac{1}{2}$ to $1\frac{1}{2}$ per cent. and to ask panel chemists to vote for Mr. Whittock in the Local Associations' Executive election. The Secretary congratulated Mr. S. Phillips on his son's marriage.

Local Associations Executive Election.

The following are the results of the election for the Local Associations Executive Committee, the successful candidates being marked with an asterisk.

The voting papers issued were 4,923 Association and 5,966 Panel. The total number of Association voting papers returned was 2,116, including forty informal papers and thirty-one received too late. There were 2,127 Panel voting papers returned, including thirty-nine informal papers and thirty-two received too late.

GROUP NO. 1.

| ASSOCIATION. | PANEL. |
|---|--------|
| Papers issued | 829 |
| Returned | 403 |
| Informal papers | 5 |
| Received too late | 2 |
| * Cherry, F. | 141 |
| * Figg, H. B. | 133 |
| Keall, J. | 130 |
| Jenkin, A. H. | 115 |
| Strickland, E. F. | 75 |
| Milner, J. | 72 |
| Hearle, J. | 55 |
| Fowler, W. H. | 33 |
| Bowden, W. | 29 |
| Evans, G. W. | 27 |
| Marns, T. | 13 |
| GROUP NO. 2. | |
| ASSOCIATION. | PANEL. |
| Papers issued | 749 |
| Returned | 312 |
| Informal papers | 10 |
| Received too late | 7 |
| * Lloyd, H. O. | 114 |
| * Joseph, L. | 102 |
| Francis, J. B. | 94 |
| Davis, C. | 37 |
| Trannor, H. M. | 61 |
| Lloyd, H. M. | 39 |
| Rees, R. P. | 21 |
| Mr. Joseph had previously withdrawn his name if elected on Panel side. Mr. Davis is therefore returned. | |
| GROUP NO. 3. | |
| ASSOCIATION. | PANEL. |
| Papers issued | 963 |
| Returned | 364 |
| Informal papers | 9 |
| Received too late | 3 |
| * Rowsell, P. F. | 160 |
| * Matthews, H. E. | 122 |
| Cuff, J. H. | 109 |
| Taylor, J. | 58 |
| Wilson, L. | 48 |
| Brewis, T. | 44 |
| Haynes, J. A. | 44 |
| Guthrie, J. S. | 28 |
| Walwin, C. W. | 14 |
| GROUP NO. 4. | |
| ASSOCIATION. | PANEL. |
| Papers issued | 737 |
| Returned | 339 |
| Informal papers | 10 |
| Received too late | 3 |
| * Sergeant, F. P. | 228 |
| * Hawkins, P. | 137 |
| Walshaw, R. C. | 128 |
| Clarkson, T. | 59 |
| White, J. A. | 46 |
| GROUP NO. 5. | |
| ASSOCIATION. | PANEL. |
| Papers issued | 918 |
| Returned | 365 |
| Informal papers | 2 |
| Received too late | 8 |
| * Deakin, J. W. | 296 |
| * Hardy, T. | 158 |
| Gifford, R. L. | 140 |
| Hopley, J. H. | 95 |

GROUP NO. 6.

| ASSOCIATION. | PANEL. |
|---------------------|--------|
| Papers issued | 727 |
| Returned | 333 |
| Informal papers | 4 |
| Received too late | 8 |
| * Young, A. E. | 185 |
| * Pegg, J. A. | 116 |
| Sinclair, C. | 94 |
| England, T. | 79 |
| Body, S. F. | 72 |
| Kennard, A. M. | 4 |
| GROUP NO. 6. | |
| Papers issued | 990 |
| Returned | 360 |
| Informal papers | 6 |
| Received too late | 6 |
| * Ridyard, C. W. | 170 |
| * Milbank, S. T. | 145 |
| Janes, F. J. | 15 |
| Hedley, C. A. | 11 |
| Dean, H. | 8 |

Irish Assistants' Wage-scale.

We printed in the *C. & D.*, December 7, 1918, p. 36, the text of the Dublin assistants' wage award which took effect from October 5. The National Amalgamated Union of Shop Assistants, Warehousemen, and Clerks has now put forward an "All Ireland" minimum wage-scale for consideration by the masters. The following is a copy of the demand :

(A) *Apprentices*.—First year, 15s.; second year, 20s.; third year, 25s.; fourth year, 35s. per week.

(B) *Assistants*.—First year after apprenticeship, 3l.; second year after apprenticeship, 3l. 10s.; after completion of the second year following apprenticeship, 4l. per week.

(C) *Registered Druggists and Qualified Assistants*.—15s. per week in excess of the above rates.

(D) *Qualified Chemist*.—5l. 10s. per week.

(E) *Qualified Chemist Covering a Shop*.—6l. 10s. per week.

(F) *Managers*.—6l. 10s. per week.

(G) *Locum Tenens*.—Qualified chemist (outdoor), 7l. 7s.; qualified chemist (indoor), 6l. 6s.; assistant (outdoor), 5l. 5s.; assistant (indoor), 4l. 4s. per week. All travelling expenses to be paid.

In all the above cases males and females are to be paid at the same rates.

GENERAL CONDITIONS.

Hours of Employment.—Six-day week of forty-four hours, work not to commence before 9 a.m. and conclude not later than 7 p.m.

Overtime.—Assistants : Time and a half rates for the first six hours in any week, double time for any further period in the same week. Apprentices : After the maximum number of hours have been worked, payment to be made at the rate of 5s. per hour.

Night Bell.—An additional 20s. per week to be paid for this duty, commencing not earlier than 11.30 p.m. and continuing until opening time the following morning.

Sunday Labour.—To be paid for at the rate of 5s. per hour, maximum number of two hours to be worked consecutively.

Bank Holidays.—Hours of employment to be on the same basis as Sunday labour. Employés engaged on a Bank holiday to be paid two days' wages.

Annual Holidays.—Two weeks' holiday each year at full pay after six months' service with an employer.

Apprenticeship.—Four years to be served with one firm. Preliminary or equivalent examination to be gained before commencement of apprenticeship. Not more than one apprentice to each qualified chemist keeping open shop. All premiums to be abolished.

Living-in System.—To be abolished.

Residence Over, or On, Premises.—To be abolished, except where an employé is doing night-bell duty.

Agreements.—To be abolished. Present agreements, either radius or otherwise, to become null and void.

Wages.—All wages to be paid weekly.

Advance in Wages.—An employé whose wages on August 1, 1919, is within 10s. per week of the above minimum wage-scales, or whose wage per week exceeds these scales, shall be paid an additional sum of 10s. per week from that date.

Future Arrangements.—All future engagements to be subject to the terms and conditions of employment as set out above.

System in Study and Training.

Advice to Pharmaceutical Students based upon the Draft Regulations for enforcing Periods of Training and Courses of Study, prior to entering for the Qualifying Examination of the Pharmaceutical Society,

THOSE who have registered or intend to register as apprentices or students with the idea of subsequently taking the Qualifying examination in two parts must anticipate having to attend courses of instruction at some approved institution for at least 300 hours in chemistry, sixty hours in physics, and sixty hours in botany before being permitted to enter for the first part of the examination. It does not follow that these courses of instruction must be taken simultaneously, and it may reasonably be anticipated that many students will take one course at a time, attending day or evening classes, as found most convenient, during the period of pupilage with a pharmacist. Provided, however, that no difficulty about finances stands in the way, it is well to give serious consideration to the question of devoting from three to six months to continuous attendance at courses of study in the three subjects before entering upon the period of pupilage or shop training, since such time as can be spared from shop work for purposes of study after the first part of the Qualifying examination is out of the way will be more profitably employed in gaining a preliminary knowledge of the subjects of the second part of the examination.

The list of approved institutions will be found to include schools of pharmacy, university colleges, technical schools, and polytechnics. It does not require a very lively imagination to look forward to the time when most pharmaceutical students will take their courses of instruction in chemistry, physics, and botany at institutions included in one or other of the three groups last mentioned, leaving attendance at a school of pharmacy for the final course of instruction—in pharmacy and *materia medica*. Such institutions as the Battersea Polytechnic in London, and Leeds Central Technical School in the provinces, will be found admirable centres for the preliminary scientific training required, and they offer the special advantages that single courses of instruction can be taken, they provide evening classes, and the fees charged are exceedingly moderate. The other subjects of the pharmaceutical curriculum are taught at these institutions as well, but it should be remembered that a period of possibly two years or more may henceforth intervene between the passing of the first and second parts of the examination, so that it would be premature to consider preparation in pharmacy and *materia medica* before the first part of the examination has been passed. The immediate point is that the courses of instruction in chemistry, physics, and botany may be attended at any of the excellent polytechnics and technical schools which exist in so many parts of the country, provided the directors of those institutions take the necessary steps to secure recognition of the same as approved places of instruction.

It will probably be found that the courses of instruction given at any particular institution do not correspond exactly with the pharmaceutical syllabus requirements, but students should not let themselves be troubled on that score, as the syllabus has long ceased to give a clear idea of the requirements of the examination-room, and it will be found that the examiners in the scientific subjects are only too anxious to recognise systematic instruction on more modern lines than the existing examination syllabus represents. Let the complete course of instruction in the particular subject be attended, so that a comprehensive and well-balanced survey of the subject may be taken, and any gaps in the candidate's knowledge of what may be termed the quaintnesses of the pharmaceutical syllabus will count for little or nothing in the examination-room. Any course of instruction in physics that may be attended at a technical school will almost certainly be much wider in its scope than the immediate requirements of the pharmaceutical student call for, but all the surplus knowledge gained by attendance during a complete course of instruction will be found very useful at a later period.

Technical-school courses in chemistry and botany may need amplification for pharmaceutical purposes at the outset, but it should be observed that chemical work as applied in the British Pharmacopœia will be transferred to the second part of the Qualifying examination, under the heading of pharmacy, at no far-distant date, while the only extra requirement in the botany syllabus that will need serious attention is the list of plants to be recognised.

Having emphasised the fact that the courses of instruction at polytechnics and technical schools are readily adaptable for pharmaceutical purposes, it may be suggested that it ought to be possible to induce the authorities in towns where there is no provision for suitable courses of instruction to take the matter into consideration at an early date and supply what is lacking in this respect. Courses of instruction that might have received but little support from pharmaceutical students when attendance was optional may well become self-supporting when such attendance is compulsory. It ought to be possible for every pharmaceutical student to attend suitable classes in general chemistry, physics, and botany at some convenient centre, and the preliminary scientific training be thus rendered much less expensive than would otherwise be the case. Moreover, the courses of instruction should all be completed, if possible, before the student is eighteen, so that the first part of the Qualifying examination can be passed at that age and the way left clear to complete the courses of shop-training and instruction in the subjects of the second part of the examination by the time the candidate is twenty-one and entitled to enter for the final test of fitness for qualification.

The period of shop-training must occupy at least 4,000 hours, spread over a period of not less than two years, any time pupils are allowed off for the purpose of attending classes not being reckoned in the time spent in the shop during any given week. Two years' shop-training is to be the minimum in all ordinary cases, and the object of stating the period in terms of hours is to ensure that minimum period being spent in a pharmacy under the supervision of a duly qualified chemist and druggist. The choice of a pharmacy will not be of such material importance as it has hitherto been, now that attendance at classes is to be enforced, but it may be suggested that the less the proprietor needs to teach the pupil the greater should be the payment to the pupil for services rendered. The payment of premiums by pupils is likely to become a thing of the past, and all pupils who have passed the first part of the Qualifying examination will doubtless be considered worthy of their hire—and that at none too mean a rate. Probably all pupils will receive modest salaries in future, but those who have passed the first part of the examination should certainly be worth more than those who are only preparing for the ordeal.

Before students can enter for the second part of the examination they must devote 600 hours to the systematic study of pharmacy at an approved school, and 120 hours to the study of *materia medica*. This means a six months' course at a school of pharmacy, the period being stated in hours to ensure regular and full attendance. As the time must be vouchsed for by the principal of the school or some other duly accredited person, it follows that this final period of training must be actually devoted to the work in hand. Again, the stipulation that a definite number of hours must be spent at a school for the systematic study of specific subjects enables arrangements to be made, if desired, to attend part-time classes in those subjects during the period of pupilage. It is safe to assume, however, that most students will make a point of attending continuous courses of instruction in pharmacy and *materia medica*, this being the plan that possesses the most obvious advantages. There will doubtless, for some time to come, be cases of students completing their period of shop-training first, then taking the necessary courses of instruction for the first part of the examination at an approved school of pharmacy, and, on satisfying the examiners in the scientific subjects, returning to the same school to complete their course of training. Others may find financial necessities compel them to take a post as junior assistant between the passing of the first part of

the examination and taking the necessary courses of instruction for the second part. The possibility of failure in one or more subjects in either part may also have to be taken into account. But, whatever may happen, it should be clear that system in study and training is bound to prove its undoubted value, and with a carefully-thought-out system any possible contingency should be fully provided for.

Westminster Wisdom.

By the "C. & D." Parliamentary Representative.

HOURS OF EMPLOYMENT.

Sir Robert Horne, on August 18, introduced a Bill to regulate the number of hours of employment, which represents an agreement reached by an Industrial Council representing employers and workmen. The Bill proposes to set up a forty-eight-hour week for all the industries of the country, with the exception of domestic servants, seafaring men, and persons employed in agriculture. It also provides for a living wage for those engaged in industry.

THE PATENTS AND TRADE MARKS BILLS.

Upon the motion for the second reading in the House of Lords, on August 14, of the Patents and Designs Bill and the Trade Marks Bill, the Lord Chancellor said these measures dealt with matters of some little importance, and it was late in the Session to ask their Lordships to give attention to them. The Government attached importance to both the Bills. There were motions on the paper to postpone the consideration of the Bills till after the recess. In the circumstances he should not move the second reading of the Bills that day, but should ask the House to give them a second reading after the recess.

THE LATE COLONEL E. F. HARRISON.

Brigadier-General Croft, on August 18, asked the Secretary of State for War whether the late Colonel Harrison lost his life in experimenting on gas-masks; whether he used to test all the masks he made personally in the gas chamber; whether he left any dependants; and, if so, whether any pension was paid and what was the amount of that pension?

Mr. Hope replied: I have been asked to answer this question. Colonel E. F. Harrison died in November 1918 of pneumonia, death being accelerated by the effects of the gases to which he had constantly exposed himself since July 1915 in testing gas masks. He left a widow and one son. A pension at the "intermediate" rate of £35. per annum was awarded, in the first place, to Colonel Harrison's widow. I am glad to say that this has recently been raised to £300. per annum, to take effect from November 5, 1918. I wish to take this opportunity of acknowledging the distinguished and devoted services of this officer.

WAR BONUSES TO CHEMISTS AND DOCTORS.

Mr. G. Locker-Lampson, on August 14, asked the Minister of Health what is the cost each year of the grants made and promised to panel doctors and chemists in respect of war bonuses or allowances?

Major Astor circulated the following reply: "Grants by way of war bonuses or allowances, as distinct from the regular payments for remuneration for Insurance practice, have been made to Insurance practitioners in respect of the year 1918, amounting to approximately £300,000. Approval has been given by the Treasury for the grant of a war bonus to Insurance practitioners in respect of the year 1919 on a basis corresponding broadly to that laid down by the Conciliation and Arbitration Board for Civil Servants. The cost of the grants for the year 1919 is estimated to be approximately £950,000. These figures are for Great Britain. As regards chemists, the increase of remuneration afforded them in respect of war conditions forms part of the general charge upon funds provided for defraying the cost of medical benefit, and cannot be readily separated."

SUGAR SUPPLIES.

Major Knight, on August 13, asked the Food Controller why a manufacturer can obtain from the merchant four times the quantity of sugar specified on his licence to buy sugar, while the private individual can obtain half only of the quantity for which he has applied for jam-making.

Mr. McCurdy replied that during the period of restricted supplies vouchers to manufacturers, other than manufacturers of jam and condensed milk, were issued upon the basis of 25 per cent. of their 1915 usage. When supplies became more plentiful the rate of issue was raised, first to 50 per cent. of the 1915 usage, and later to 100 per cent. For administrative convenience the old vouchers issued at 25 per cent. were retained, and the increase was secured by honouring the voucher at twice, and later at four times, its face value. Manufacturers are now receiving 100 per cent. of the quantity they used in 1915, and not, as seems to be implied, four times the quantity they are entitled to purchase. Private individuals desirous of using sugar for jam-making received 100 per cent. of the quantity applied for in respect of the earlier fruits, and are now receiving 50 per cent. of the quantity applied for in respect of the later fruits. As already stated, the total amount of sugar supplies for domestic jam-making will exceed the amount originally allotted for this purpose.

POTASSIUM CHLORIDE IMPORTS.

Mr. John Dennis, on August 18, asked the President of the Board of Trade whether a licence to import 200 tons of muriate of potash has been applied for by the West Norfolk Farmers' Manure Co., Ltd., a farmers' co-operative association; whether such licence has been refused, the applicant being referred to the British Potash Co.; whether any valid reason exists for the restriction of trade liberty in the importation of this fertiliser; and whether, in the event of the applicant being forced to buy from the rival concern named, he will undertake that the cost of this fertiliser in Lynn to the applicant shall not exceed its contract price with the Alsace-Lorraine trading company for the 200 tons in question?

Sir A. Geddes replied that the application from the company was dated August 11, and has not yet been replied to. The requirements of the company will be filled by the British Potash Co., who hold a licence for the higher grade of potash salt referred to. The Alsace-Lorraine Trading Co. do not import the higher-grade salts, and if the West Norfolk Farmers' Manure Co., Ltd., have contracted to buy an import-prohibited article they should have first assured themselves that a licence would be issued. At the same time, it is probable that the muriate, which will arrive in the course of the next day or two, will be delivered at a price at least as favourable as that at which it could be obtained from the Alsace company. That price will be the f.a.s. price at Rotterdam, as fixed by international agreement, plus incidental expenses.

IMPORT RESTRICTIONS.

Mr. Raffan, on August 14, asked the President of the Board of Trade whether the Licensing Sub-Committee (Dyes Department) of the Import Restrictions Department has the power, before granting permission for the importation of medicinal chemicals said to come within their province, to demand the name of the actual manufacturers as well as that of the consignors, and to demand the original invoice and to levy a charge of 1 per cent. on the said invoice, estimated at the rate of exchange at the time of granting permission to import?

Mr. Bridgeman replied: Chemicals of kinds which are intermediate materials for the manufacture of dyestuffs can be imported only under licence and must be consigned to the Central Importing Agency, which is entitled to levy a charge of 1 per cent. to meet expenses incurred. This arrangement has been made by the Licensing Sub-Committee of the Trade and Licensing Committee equally representative of dye-makers and dye-users established under the Government scheme for the encouragement of the dye-making industry, and has met with the general approval of all the interests concerned. The name of the actual manufacturer is necessary in order to prevent the indirect importation of German dyes and materials,

and the invoice value for the purpose of calculating the agency fee. Chemicals suitable only for medicinal purposes are not included within the scope of the arrangement. The Licensing Sub-Committee of the Dyes Department is distinct from the Import Restrictions Department. No fees are charged by the latter.

Mr. Raffan also asked the President of the Board of Trade whether the Department of Import Restrictions is asking why the requirements of chemical firms for such chemicals as diethyl barbituric acid, methyl sulphonal, and santonin cannot be satisfied in this country, notwithstanding the fact that these chemicals are not manufactured in Great Britain to any appreciable extent?

Mr. Bridgeman replied : No inquiry as to the chemicals named can at present be traced, but it is a usual matter of routine to inquire of applicants for licences whether their wants cannot be satisfied from home sources. When it is agreed that chemicals which are needed are not manufactured in this country to any appreciable extent licences to import them are freely issued.

Mr. Raffan next asked the President of the Board of Trade whether the Licensing Sub-Committee (Dyes Department) of the Import Restrictions Department has the power, under Proclamation No. 29, to prohibit the importation of such chemicals as antipyrin, amidopyrin, and phenacetin, notwithstanding the fact that these chemicals are used entirely for medicinal purposes, and are not in any sense intermediary dye products?

Mr. Bridgeman replied : The three products named are undoubtedly intermediate coal-tar products, but for the reason stated in the question the duty of issuing licences for them has, by interdepartmental arrangement, been transferred from the Licensing Sub-Committee of the Dyes Department to the Department of Import Restrictions.

Mr. Raffan then asked the President of the Board of Trade whether the importation of vanillin into this country has been entirely prohibited in spite of the fact that the entire output of British manufacturers has been sold up to the end of September; and whether the effect of this prohibition has been to increase the market price of vanillin from 45s. to 80s. per lb.?

Mr. Bridgeman replied : The importation of vanillin is not prohibited entirely; it is restricted to 50 per cent. of 1915 imports. I am not prepared to accept the suggestion in the latter part of the question.

Mr. Raffan : Is the hon. gentleman able to say that the price has not increased from 45s. to 80s. per lb. as the result of this restriction, and is he able to say whether it is not true that home manufacturers say they can fulfil no orders till the end of September?

Mr. Bridgeman : I did not say what the hon. member attributes to me. I did not admit that the whole increase is due to the import restrictions.

THE GOVERNMENT'S TRADE POLICY.

The Prime Minister, on August 18, made his eagerly awaited statement on the trade and industrial position. The following is that part of the speech which dealt with the trade policy of the Government :

I must say something about trade policy. Here again I recall the conditions under which we are operating. I must ask every member of the House and all who are outside to try to forget pre-1914, and test the thing by the conditions as they are to-day, and think what remedy you have to apply to these conditions. These conditions may be merely temporary, but for the moment they are dominating the immediate future, and may continue for some time to come. It is our international trade which is in peril, and our home trade is depressed by reduction of output and the increased cost of production. Imports of manufactured goods from abroad are not coming, and there is no immediate prospect of their coming. Germany has been deprived of her iron and coal, and whatever the troubles may be in this country they are not comparable to those under which Germany labours. When you come to the United States, which would be a formidable competitor, the mere fact that the exchange is against us is a protection in itself against the import of manufactured goods. If the exchange is down to 17s., that is equivalent to something like a 15 per cent. tariff against the import of any goods from the United States of America. More than that, freights

at the present moment are very high. I cannot see any prospect of their coming down to anything approximating to pre-war rates, and though you have a great disparity between the cost of an article in the United States and the cost at which it can be produced here, when you have worked it out the exchange added to the cost of bringing the goods over will show no profit for the United States manufacturer. These are the salient facts of the situation. They may change soon, but I can see no prospect of that. When there is a change in the conditions I hope Parliament will be sensible enough and bold enough to provide a remedy which will be applicable to the conditions of the time. We have, therefore, decided that the interim trade policy of trade restrictions shall come definitely to an end on September 1. They were retained to shield industries during the time of demobilisation, and during the time we were changing from war conditions to peace conditions. There is no further justification for them. The only result of keeping them on after September 1 would be to put up prices artificially, and they are too high just now. Now I come to the provisions which we have to make to defend the industries of this country against unfair competition and against competition which might destroy certain essential industries which could not be maintained in the face of open competition. There would be the obstacles in the way of imports which come from low exchanges and high freights. The Government propose to abandon the support of the exchange, except in so far as some support may for a time be necessary to prevent complete collapse in important exchanges. This may lead to a further fall in the American exchange until our output increases, but it will raise a higher wall against American imports. In the interests of fairness, in the interests of British industry as a whole, the Government have decided to submit proposals which will effectively deal with dumping. I come now to the question of shielding unstable key industries. What does an unstable key industry mean? I will give four tests. The first is this, whether the industry was revealed to be essential for war or the maintenance of the country during the war. The second is this, whether during the war it was discovered that that industry had been so neglected that there was an inadequate supply of goods produced in the industry for the purpose of equipping ourselves for the essential task of war. The third is, whether it was found necessary for the Government to take special steps to promote and foster that industry during the war. The fourth is this, whether if that special Government support were withdrawn these industries could maintain themselves at the level of production which war has shown to be essential to the national life. The war is the test. Those are the four tests which we will apply to the key industries. The two best illustrations, although they are not comprehensive, are synthetic dyes and optical glasses and lenses. They may represent a small percentage of the whole industry of the country, but their importance is quite out of proportion to their quantity. It is proposed that the Board of Trade shall have power to prohibit the import of these goods except under licence, and to prevent excessive imports a fee will be charged for the licence. It may even be necessary for some time to continue the assistance given to these industries, but care will be taken that no undue profits shall be made at the expense of the community. Another part of our trade policy is that connected with technical instruction in the promotion of industrial research and invention. That is a vital part of any successful trade policy. During the war we have discovered how much we suffered from the fact that Germany had spent considerable sums of money upon technical instruction and research and invention, and I hope that that lesson will not be lost upon this country.

THE members of the Leicester Pharmaceutical Assistants' Association held their first annual outing on August 14, when a large party journeyed to Market Harborough by motor. Rowing, cricket, and other outdoor sports were enjoyed, and tea was served in the town. The President (Mr. S. S. Squires) in the course of a short address, appealed to all pharmacists' assistants in the county to join the Association. He said that it was on very favourable terms with the employers, and the recent election of the President of the Assistants' Association to the Council of the parent Association was a happy augury for the future relations between the two bodies. The President invited everyone present to accept a gift from the employers of cigars and cigarettes for the gentlemen and sweets for the ladies. He added an expression of thanks to the committee who had made the arrangements. After tea the party was photographed.

Birth.

MARSDEN.—At 56 Grosvenor Road, Ilford, Essex, on August 20, the wife of G. H. Marsden (Watts, Marsden & Co.), of a daughter.

Marriages.

DYER—OTTON.—At St. Paul's Church, Honiton, on August 12, by the Rector (the Rev. the Hon. F. L. Courtney), Bernard H. Dyer, chemist and druggist, The Pharmacy, Honiton, only son of the late Edward H. Dyer, Ph.C., to Gertrude Marion Otton, Field View, Honiton.

HALL—COTTERILL.—At Astbury Church, near Congleton, on August 16, John Arthur Hall, Ph.C., to Mabel, youngest daughter of the late Samuel Cotterill, Ph.C., Congleton.

PHILLIPS—MILLS.—At All Saints' Church, Petersham, on August 6, by the Rev. C. S. Nicholl, Gilbert Arthur, youngest son of Mr. Sidney Phillips, Ph.C., 8 Lichfield Street, Wolverhampton, to Beatrice Maud, daughter of Mr. John Mills, Seaforth, Liverpool.

THOMAS—BAILEY.—At St. Vincent-de-Paul, Clapham, on August 19, by the Rev. Monseignor Hinde, Alfred Thomas, chemist and druggist, 57 Old Town, Clapham, London, S.W. 4, to Joy, only daughter of Mr. H. J. Bailey, Clapham.

Deaths.

BUSH.—At Stockton-on-Tees, on August 18, of apoplexy following bronchitis, Mr. Edward Thomas Bush, aged sixty-four. Mr. Bush was at one time a partner in William Bush & Sons, wholesale druggists, Walworth Road, London, but since 1905 had been a representative of Potter & Clarke, Ltd. Mr. Bush was a man of charming personality.

HOUE.—At 40 Peascod Street, Windsor, on August 12, Mrs. Houfe, wife of Mr. R. W. Houfe, Ph.C. During the war she was an active worker at the Hospital Supply Dépot and at the Sailors' and Soldiers' Institute, the strain of her labours causing her health to give way.

STRICKLAND.—At Eastbourne, on August 14, Mr. Ernest Frank Strickland, chemist and druggist (Bruce, Ltd., Ealing, Chiswick, and Earl's Court), aged fifty-one. Mr. Strickland, who was on holiday, became ill while bathing with friends and was carried to the shore, never to regain consciousness. He qualified in 1890, and resided for many years at Ealing, where he had numerous interests, pharmaceutical and otherwise. He was a member of the Middlesex Pharmaceutical Association and Insurance Committee, the first President of the Ealing Pharmacists' Association, and a member of the Galen Lodge of Freemasons. He was also major in command of the 3rd Battalion of Cadets. There was a large attendance at the funeral, which took place at St. George's Cemetery, Hanwell. Semi-military honours were accorded, the coffin being draped with the Union Jack, and a guard-of-honour was at the cemetery gates. Many beautiful floral tributes were sent from public bodies, and representatives of these included Mr. Irwin (Shirtliffe, Smith & Co.), Mr. John Humphrey (Middlesex Pharmaceutical Association and the Galen Lodge of Freemasons), Messrs. Weston, Wrench and Storm (Ealing Pharmacists' Association), Mr. Flood (Pharmaceutical Society). He leaves a widow and two sons, one of whom was a prisoner-of-war in Germany, having been previously attached to the Royal Air Force.

WALKER.—At Clitheroe, recently, Mr. James Eteson Walker, chemist and druggist, aged seventy-eight. Mr. Walker was in business in Church Street, Preston, for over fifty years, and retired shortly before the war. For a long period he acted as local preacher in the Preston Wesley circuit, all his spare time being spent in the service of the church.

Died on Service.

FRASER.—At Longmore Hospital, Edinburgh, on August 7, Alexander Fraser, chemist and druggist.

Personalities.

MISS F. M. CAVANAH has been appointed assistant dispenser to the Guardians of the Hackney Union.

MR. W. G. MATTHEWS, late representative of Wyleys, Ltd., Coventry, has become a director of E. H. Wrighesworth, Ltd., manufacturing chemists, Hull.

MR. T. SIMNETT, chemist and druggist, has resigned his position as dispenser to the Guardians of St. Mary's, Islington, Parish.

MR. J. T. BELLAMY, Ph.C., 2 Tindal Square, Chelmsford, has purchased for £3,000/- the premises occupied by him at an annual rental of 100*l.* His lease was due to expire in 1923.

MR. JOHN TAYLOR, J.P., chemist and druggist, Lucius Street, Torquay, had conferred on him, at the Supreme Grand Chapter of Freemasons held in London on August 13, the rank of Past-Assistant Grand Director of Ceremonies.

MR. R. LORD GIFFORD, J.P., Ph.C., took part in the presentation, on August 15, of a gold watch and albert to Mr. A. E. Brown (Blackburn), Chairman of the Executive Committee of the National Chamber of Trade, who is leaving Blackburn.

MR. SMITH, dispenser, has been granted an award of 10*l.* by the Lewisham Guardians for extra work during the six months ended March 31 in connection with the treatment of wounded soldiers.

MR. A. H. SIMINSON, chemist and druggist, High Street, St. Lawrence, Ramsgate, has been presented with a dining-room clock in appreciation of his kindness in sheltering residents of the locality, within the chalk caves at the rear of his premises, during air-raids and bombardments from the sea.

MR. GEORGE TURNER, for thirty years a member of the staff of the Oxford Drug Co., Ltd., Oxford, on attaining his seventieth birthday recently, was presented by the directors and employés with a cheque and an upholstered arm-chair, along with a letter of appreciation of his services, from the company.

Business Changes.

MR. H. SCHOLEFIELD has disposed of his business at 51 Hardwick Street, Hull, to Mr. John Boyd Billany.

MR. W. BISCOMBE, chemist and druggist, has taken over the business of Mr. J. J. Wilson, chemist and druggist, 67 Main Street, Egremont, Cumberland.

MR. T. BRIGGS, chemist and druggist, has purchased the business carried on by Mr. E. Halliday Bedford, chemist and druggist, at 71 Brundenell Grove, Hyde Park, Leeds.

MR. B. E. JAMES, chemist and druggist, has taken over the business of Mr. L. U. Lewis, chemist and druggist, Station Road, Port Talbot. Mr. James served his apprenticeship to Mr. Lewis.

Coming Events.

Saturday, August 23.

"Allenburys" (Ware) Amateur Athletic Association, Sports Ground, Park Lane, Ware, at 2 p.m., Peace celebration and annual sports. Admission (including tax), 8d.

Wednesday, August 27.

National Association of Chemists' Assistants (BIRMINGHAM BRANCH). Central Hall (Room 25), Corporation Street, at 7.30 p.m. Mr. F. C. Highfield, Ph.C., on "A Pharmacist's Experience with the Army in the Near East." Admission free.

NATIONAL ASSOCIATION OF CHEMISTS' ASSISTANTS (BIRMINGHAM BRANCH).

An outing will be held on September 3. Motor-bus starts at 2.30 p.m. from Old Square for Leamington, Kenilworth, and Warwick. Tickets (10*s.* each, inclusive of high tea) from Mr. Goodman, 67 Beach Road, Sparkhill, or Mr. L. A. Mills, 296 Green Lane, Small Heath, Birmingham, on or before August 27.

Trade-marks Applied for.

The figures in parentheses refer to the classes in which the marks are grouped, for a list of which, with particulars as to registration, see "The Chemist and Druggist Diary," 1919, p. 220.

(From "The Trade Marks Journal," July 9, 1919.)

- "BEICO": for chemicals (1 and 2) and for medicinal chemicals (5). By the Brico Commercial Chemical Co., Ltd., 3 Welford Road, Leicester. 389,190, 1, 2. (Associated.)
- "VITANOC," "VITAGO," and "VITAGOL": for chemicals (2). By Squills & De Laacy, Ltd., Fern Street, Clitheroe, Lancs. 389,843, 49, 52. (Associated.)
- "PARALBROMA": for all goods (3). By R. Eckermann, Stortorget 17, Malmö, Sweden. 389,495.
- "BEUSAN BRAND PILE CURE": for medicines (5). By the Bruce-Smith Pharmacies, 4 High Street, Mexborough. 389,559.
- "KILEAC": for medicinal chemicals (3). By E. H. Holder, 1 Featherstone Road North, Oldham. 389,856.
- "EZATU," on board standing on easel ("Ezau") disclaimed; for medicinal chemicals (3). By W. E. J. Ellis, 10 Albert Road, Ilford, Essex. 389,644.
- "FERNANTOOLS BRAND MEDICINE FOR HUMAN USE": for a medicine (5). By G. L. Tringham, 61 Pathfield Road, Streatham Common, S.W. 16. 390,155.
- "IREGON": for medicinal chemicals (5). By the Salus Co., 227 Upland Road, East Dulwich, S.E. 22. 390,254.
- "FACTAID BRAND MEDICATED SURGICAL DRESSINGS": for medicated surgical dressings (5). By M. Smith, Rogart House, Park Hill Road, Harborne, Birmingham. 390,470.
- "ADMIRAL BRAND AN OINTMENT" on label for an ointment (5). By S. G. Tydeman, 45 and 47 Broad Street House, New Broad Street, E.C. 2. 390,699.
- "CALOPLAST BRAND ANTI-EPILEPTIC POTLUCE": for medicinal chemicals (5). By Allen & Hanburys, Ltd., 57 Lombard Street, E.C. 3. 390,827.
- "ARISTO": for photographic papers (3). By Kodak, Ltd., Kingsway, London, W.C. 2. 391,578.
- "KELLY": for beverages (42). By Mair & Dougall, Ltd., 35-41 Annfield Street, Glasgow. 386,955. (Associated.)
- "STOLOSE": for all goods (42). By Corn Products Refining Co., Whitehall Building, Battery Place, New York, U.S.A. 389,561.
- "CRETAENO": for all goods (42). By A. E. Cook & Co., 4 Borough High Street, London Bridge, S.E. 1. 390,877.
- "FREEMAN'S Foods" under picture of little girl holding packet: ("Freeman's" disclaimed); for food substances (42). By the Watford Manufacturing Co., Ltd., Watford, Herts. 391,558. (Associated.)
- "BALCONY": for food substances (42). By J. Pascall, Ltd., 100 Blackfriars Road, London, S.E. 1. 391,550.
- "VITESCO": for food substances (42). By Murphy & Son, Ltd., 2 Dorset Square, London, N.W. 1. 391,626.
- "LENAVIS": for mineral waters, etc. (44). By A. Leney & Co., Ltd., Castle Street, Dover. 389,751.
- "GOLDEN RULE": for all goods (47). By J. Mellis & Co., High Street, Prestonpans, Scotland. 391,309.
- "SMO": for perfumery, etc. (48). By C. Micklem, Abbot's Mead, Elstree, Herts. 388,855.
- "EXED BRAND TOILET PREPARATIONS FOR THE FEET": for feet preparations (48). By Wynter Bros. & Co., Ltd., Low Green Works, Great Hornton, Bradford. 389,011. (Associated.)
- "MASCARADE": for perfumery, etc. (48). By Morny Frères, Ltd., 211 Regent Street, London, W. 1. 389,150.
- "ITHOLO ITALIANO MARCA DI FABBRICA," with picture of fish on circular label; for perfumery, etc. (48). By Società Industrie Chimiche Itholo, 24 Via Medina, Naples Italy. 389,213. (Associated.)
- "DECOPACINE": for perfumery, etc. (48). By Solvène, Ltd., 48 Dover Street, London, W. 1. 389,610. (Associated.)
- "FONTOLINE": for hair preparations (48). By Silk's Toilet Co., 8 and 9 Red Lion Street, High Holborn, London, W.C. 1. 391,171.
- "CASSONA": for perfumery, etc. (48). By Potter & Clarke, Ltd., 60-64 Artillery Lane, London, E. 1. 391,536. (Associated.)
- "THE COLONIES AND CHINA-INDIA-JAPAN," with picture of Chinese, Indian, and Japanese; for perfumery, etc. (48), and for goods (5). By King Bros., 15 Bury Street, St. Mary Axe, London, E.C. 3. 390,627; 650. (Associated.)
- "LYPE PIPP," with picture of same for toilet requisites (48). By Eudermine Co., Ltd., 79 Coleman Street, London, E.C. 2. 390,916.
- "JOLLY MILLER": for perfumery, etc. (48). By G. W. Goodwin & Son, Ordsall Lane Soap Works, Manchester. 391,469.

Trade Notes.

PEARS' SOAP.—The retail price of Pears' soap has been advanced to 7d. per tablet, as announced in the advertisement last week of A. & F. Pears, Ltd., 71-75 New Oxford Street, London, W.C. 1.

STOCKTAKING.—Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C. 1, will close their warehouses on Saturday, August 30, for the purpose of stock-taking. Only emergency orders can be executed on that day.

ENGLISH CHEMICAL GLASSWARE.—The "W" brand of English-made chemical glassware is made by Wood Bros. Glass Co., Ltd., Barnsley. A list of houses which stock the company's products is given in our advertising columns.

WOODWARD'S GRIPE WATER.—The proprietors make an announcement in regard to the supply of bottles for Woodward's Gripe Water. Chemists are asked to assist in collecting used bottles, which will be purchased on special terms.

BENNETT BROS., 28a Basinghall Street, London, E.C. have been appointed sole agents for the United Kingdom for Mr. A. Birchamstock, Montreuil, for the sale of synthetic perfumes, essential oils, etc. Samples and prices can be had on application.

STANDARD PRICE-LIST.—The "Standard" retail price-list issued by Mr. Charles Philip, chemist, 23 High Street, Herne Bay, continues to improve while maintaining its position as the best of its kind. The August list runs to sixty-four pages, the patents section being the latest addition. The annual subscription is 7s. 6d., post free.

EASELIB FOR PILES is now sold in compressed tablet form instead of the hand-made cake hitherto offered. The Easelib Remedies Co., 2 Upper Road, Batley, ask all chemists who have any stock purchased before May of this year, or bearing the name of Woolford & Co., Leeds, to return it for exchange. Postage will be refunded. Particulars are given in an advertisement which appears in this issue.

Information Department.

INFORMATION WANTED.

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| 254, 37. Lover's Pills. | 255/43. "Pan - Lan" for freckles. |
| 254, 18. Barn's Glycerine Cream. | 244, 44. "Queen Mab" vapo- |
| 249, 6. Hammonit Poultices. | rising lamps; makers- |
| 251, 74. Dr. Adier's Cough Cure. | 8/30. "Royal" soothers, "J. S. & S. London." |
| 256, 45. Parry's Castor Oil Pomatum. | 250/9. "Lex-U" chocolates. |

INFORMATION SUPPLIED.

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| "Aremcol," 247/66 | Menthol cones, 235, 11 |
| "Bistecol" beer-like paste, 252/41 | Murray's Magnesia, 250/37 |
| Boroseptic ointment, 244/66 | Neave's Food, 253/39 |
| Brill's Sea Salt, 250/71 | Nelson's (Dr.) Locite Washing Pad, 245, 31 |
| "Bromo" toilet rolls, 250/71 and 252/51 | Neville's Preparations, 233, 18 |
| Brones toilet rolls, 235/15 | Palmolive Soap, 254/66 |
| Brown's bronchial troches, 228, 35 | "Perazone" bleach, 253, 29 |
| "Bungallow" hot-water bottles, 254/65 | "Polta" polish, 248/73 |
| Calcium Carbonate, 248/56 | Prophylactic tooth brushes, 252/39 |
| Carboneum, 225/52 | "Sargol" tablets, 241/10 |
| Chinosel Co. address, 229/16 | Seller's Pastilles, 249/15 |
| Cosmétiques, 245/32 | Soap-wrapping machinery, 243/45 |
| "Coza" powder, 234/14 and 243, 28 | Sulphur, powdered, 243/32 (Egyptian inquiry) |
| Treme Simon, 253/39 | Sulphurous acid in bulbs (Norway inquiry), 213/59 |
| "Cutex" specialties, 256/3 | Supsales, 212/67 |
| "Eagle" vacuum flask, 249/55 | Taylor's swansdown powder, 232, 40 |
| Elliman's Embrocation, 249/6 | Treacle (for cattle-feeding), 222/32 |
| Euphorbia compound, 247/6 | "Tudor" cameras, 222/36 |
| Fels Naptha Soap, 244/64 | Urseptic Pills, 251/74 |
| "Formeloids," 255/44 | Valentine's beef juice, 221/25 |
| "Gayett" paper, 250/71 | Vanillin, 232/10 |
| Kalmine Metadier 248/58 | "Taper," 219/69 |
| "La Dorina" face-powder, 242/4 | Tia Noury, 254/14 |
| agents, 242/4 | Woodward's Gripe Water, 250/21 |
| "Limosine," 242/41 | "Zotos," 234/10 |
| "Limestone Phosphates," 243/58 | "Zymole Trokeys," 247/53 |
| Little's Phenyle, 247/67 | |
| Magnesium Chloride, 245/61 | |
| "Mayonnaise," 247/58 | |

Observations and Reflections.

By Xrayser II.

Candidates for the Qualifying Examination

should study well the valuable up-to-date advice given by a Pharmaceutical Examiner in your issue of last week. Your contributor is perhaps a little less than kind to teachers and a little blind to occasional lapses on the part of examiners. Examiners are but men, and there is something more than "traditional history current in the schools" to account for the nerve-destroying fear with which some of them have at times been regarded. This, however, was not your contributor's subject, nor is it one on which it is necessary to dwell. I have heard of one or two cases of great unfairness towards an already nervous candidate, but they were certainly exceptional and such as the natural infirmity of the flesh may be held to excuse. Your contributor appears to regard botany as the subject in which the percentage of failures is greatest, and it is undoubtedly the one which most candidates of my acquaintance have dreaded most. I believe the reason is that it is mostly studied from dead specimens; and—this is the chief point—in what really is to many students a dead language. "Many a fair flower," as the late Mr. Martin Farquhar Tupper appropriately put it, "is burdened with a preposterous appellative," and they are one and all described in text-books in terms that in themselves are meaningless to an uneducated mind. This is, I know, inevitable in the circumstances, and all sciences share with botany, to a greater or less degree, the disadvantage of being usually taught in a style that sets one's teeth on edge. The elevation of

Poison Law

into a separate subject of capital importance seems to me a mistake, and I cannot but suspect some political motive, unworthy of a learned Society, in giving it such prominence. I do not, of course, intend to belittle the importance of a thorough acquaintance with the Regulations for the sale of poisons, but this is not a scientific subject at all and has no proper place, or at least a very minor one, in what purports to be a scientific examination. What your contributor says about a smattering of knowledge on a great variety of subjects without a thorough knowledge of any one of them is admirably wise. To know one thing well is the greatest help in the world to the acquisition of knowledge in other directions. Your own review of the educational situation is, as always, succinct and illuminative.

Mugwumps

is, or was, the name given in America to those persons who take neither part nor interest in politics, who remain unmoved during the noise and bustle of a Presidential election, and regard Tammany with indifference. More than a third of the members of the Pharmaceutical Society—to be precise, 3,062 of them—appear to belong to this class. These are doubtless they who never vote for delegate or councillor, who never open, or at least never read the "Journal," which, like the gentle rain from heaven, descends impartially upon the just and the unjust, and is regarded by those people merely as incidental to an imperfect state of existence. They probably treated the recent Referendum Circular in the same way; at any rate they did not take the trouble of replying on the stamped post-card. What shall be said of such persons? They remind one of the woman who asked me a year or two since who Mr. Gladstone was: she thought she had seen the name in the papers, and somebody had just told her that that day was his birthday. Mr. Gladstone had much less direct importance for the woman than the by-law has for pharmacists. Against such stupidity as theirs it is that even the gods are said to fight in vain, and Messrs. Hines, Skinner, and Wolff have "a darned long row to hoe" in trying to overcome it. The *vis inertiae* is, I suppose, the strongest force in Nature.

The Dust and Heat

of the conflict being over, it should now be possible to take a dispassionate view of what has taken place. It amounts to this: the Pharmaceutical Society has, so far as its chief function is concerned, resigned in favour of the Privy Council. It was never entirely free to do as it liked, but it is now bound as it never was before: it could not do everything it would; it is now forced to do what it loathes. It is absurd to suppose that the by-law becomes inoperative with the admission now of a few apothecaries' assistants; who will next be admitted nobody knows, but one thing is fairly certain—all this pother was not raised for one occasion only. The President tells us it means nothing new: we admitted unexamined men to registration in 1868, and we admit Colonial pharmacists now. The analogy in both cases is a false one. The men of 1868 were already in business, practical pharmacists with a vested interest in pharmacy; the Colonials have passed examinations comparable with our own and approved by our Society. Neither of these things can be said of these assistants. We have made an entirely new departure; anybody who has sufficient interest with the Privy Council may now force his way in among us. The question so often asked, "Are the examinations worth while?" has thus acquired a tremendous new force, and the official answer virtually is that they are not. There are 174 institutions (not counting the unspecified institutions carried on by Government and local authorities) whose employés may demand admission, and this is but the beginning of the evil. There is, as Mr. Wolff reminds us, Mr. Huntrod and his Society, and there are men, probably more influential than he with the Privy Council, representing great trusts and trading associations. The new by-law has been condemned as a back-door; let us hope it will not rather prove a flood-gate that we have opened.

The Election

to the Local Associations Executive and the circular on the subject sent out to every pharmacist on the Register, are this week's chief topics. The first thought suggested by the circular is the obvious one that if the establishment of the Executive on a territorial basis brings it into closer touch with members of the craft, the sooner the Council is established on a similar basis the better. It is a more serious reflection that our new Executive will still be a composite, or, I should say, a dual body. Panel members and Association members will run side by side, like the waters of the Arve and the Rhone, in two streams, each representing a supposedly separate interest. This is a radically vicious arrangement, for it is founded on a fallacy. No such distinction really exists between the interests of panel and non-panel chemists, and the idea that it does ought not to be thus perpetuated. Any one of us may at any time become or cease to be a panel chemist; moreover, as members of one pharmaceutical body we are all, though not necessarily in an equal degree, concerned in the working of the National Insurance Act as it affects pharmacy. But in the L.A.E. we are represented as two parties with ostensibly different interests, and we are unequally yoked together there, the Association members being in the proportion of two to one, though the number of Association employers is probably less than that of panel employers. The result will almost certainly be to set us by the ears; it will quite certainly be to create needless friction and confusion both in the internal working and the external relations of the Committee.

BUSINESS IN BOMBAY among the Bazaar dealers is very dull. British makers are, however, shipping freely goods left over from 1917 indents, with the result that many dealers are disposing of their products under cost.

"SYNTHETIC QUININE."—With what apprehension the Dutch Indies view any discovery which might adversely affect their cinchona monopoly is illustrated by the reproduction, under the heading "Quinine Partly Synthetically Produced," in the "Algem. Landbouw-Weekblad v. Ned. Indie" of June 20, 1919, of the note on Rabe and Kindler's investigations in the Scientific Progress column of our issue of April 26, 1919.

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their other Advertisement
on page 8.

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Editorial Articles.

Registered Medical Practitioners.

The question of who is and who is not a duly qualified medical practitioner is one of interest to all members of the drug-trade. In a less direct manner it concerns the general public. The recent appearance in one of the London Police Courts of a negro "medical man," charged with falsely pretending to be a registered medical man, furnishes an illustration of one of the forms in which the question may arise. In view of recent legislation on the subject, there cannot be said to be any longer any doubt as to who is entitled to call himself a duly qualified medical practitioner; but the steps by which we have arrived at the present condition of medicine as a profession have been halting and incoherent, and often, to modern eyes, have an element of quaintness. In early times in England there was nothing to prevent anyone practising medicine or surgery. It was not an occupation for which an apprenticeship was required, and this was the only restriction then in force on the following of any craft. The first attempt to regulate the profession was in 1512, when an Act was passed which prohibited any person from practising as a physician or surgeon within London or seven miles thereof without examination or licence. The Act also imposed a penalty of 5*l.* per month on anyone who practised surgery in any part of the kingdom, except within London and seven miles around without licence. Licences under the Act were to be granted, for the London district by the Bishop of London and the Dean of St. Paul's, and elsewhere in England by the Bishop of the diocese or his Vicar-General, after examination of the would-be licensee in each case. This Act is still unrepealed, though in practice obsolete. Shortly afterwards, in 1519, physicians were incorporated by Royal Charter, and their position was further defined by an Act of Parliament passed in 1523. After considerable controversy the judges ruled that the effect of this Act was that any competent person could, as before, practise medicine, but that the President and College of Physicians were to decide as to competency, and that it was their duty to admit to practice everyone whom on examination they found to be competent. The position of surgeons was next regulated by an Act passed in 1541 which amalgamated the Guild of Barbers, which had existed since 1461, with the Society of Surgeons, the joint body to be known as the Mystery and Commonality of Barbers and Surgeons of London. The legal position of surgeons as thus settled continued until the Act passed in 1745, which separated the surgeons from the barbers' branch and gave persons examined and admitted by the College of Surgeons a right to practise surgery in any part of the dominions of the Crown. It would appear at the same time that there is nothing to prevent a person even now practising surgery elsewhere than in London and Westminster and seven miles around if he obtains a licence from the appropriate Bishop of the diocese. After a good deal of adjustment of the legal position of physicians and surgeons, chiefly through decisions of the courts on isolated points of law, the Medical Act of 1858 was passed making provision for registration. By this Act, as since amended, registration of medical practitioners is made necessary, so that no other than registered persons can claim to be a legally or duly qualified medical practitioner. An unregistered person cannot recover any charge in any court of law for any medical or surgical advice or attendance or for the performance of any operation or for any medicine which he has both prescribed and supplied, and he cannot hold any of the Government or other medical appointments specified in the Act, nor can he sign

a certificate required by Act of Parliament to be signed by a medical practitioner. Anyone who unlawfully assumes a title implying that he is registered is liable to a fine of 20*l.*, and the Act also imposes a penalty on anyone obtaining or attempting to obtain registration by false representations. The privilege of monopoly thus secured to registered practitioners has added to it a corresponding privilege in the duty which they owe to their patients. A medical man may be liable to pay damages to his patient if he does not treat him with the proper degree of skill and knowledge. In the case of a registered practitioner, if injury results from his treatment, the law still assumes that he is competent until the contrary is shown. This is not assumed in the case of an unregistered person. The position of both was recently defined by the High Court of Scotland in this way: In the case of a registered practitioner the law assumes that he holds himself out as having the ordinary skill and care of his profession. In the case of an unregistered practitioner, if he is not known to the patient to be unregistered, he must show the standard of skill of the registered practitioner in the place and in the circumstances in which his services are rendered; if known to be unregistered, then only the skill which he professes or announces.

Overseas Trade in July.

THE Board of Trade Returns for July create new high records both for imports and exports. The total imports for the month amounted to 153,140,000*l.*, an advance of 44,000,800*l.* compared with the same month last year, and an increase of 63,015,000*l.* compared with July 1917. The exports for the month amounted to 65,315,500*l.*, an advance of 21,671,000*l.* compared with July last year, and an increase of 15,482,000*l.* compared with July 1917. As regards imports, food, drink, and tobacco advanced by 24,789,000*l.*, raw materials by 22,484,000*l.*, and miscellaneous and unclassified products by 124,000*l.*, but manufactured goods declined by 3,395,000*l.* Imports of oil-seeds, oils, fats, and gums were valued at 10,611,000*l.*, or 385,700*l.* more, but values rather than quantities played the more important part—e.g. we imported 152,309 quarters of linseed at a cost of 1,102,687*l.* (mostly from India), whereas in July last year we brought in 112,570 quarters (mostly from the Argentine) at a cost of 667,771*l.* only. The same remarks apply in a less degree to cotton and rape seed. Much larger receipts of turpentine are noted—61,269 cwt., against 676 cwt.—and there is an all-round increase in the receipts of seed-oils compared with July last year, when the war was waning. Petroleum imports declined from 96 million to 55 million gallons, and there was also a general decline in ground-nuts and palm kernels; there was a remarkable increase in tallow—from 3,387 cwt. to 291,931 cwt., Australia supplying 147,000 cwt. and New Zealand 51,600 cwt. Our imports of chemicals and similar products declined to 2,157,300*l.*, or 1,738,500*l.* less. The import restrictions and the adverse American exchange operated throughout July, and this is particularly noticed in “enumerated chemicals,” which declined from 2,243,763*l.* to 338,200*l.* Various tanning substances and dyestuffs show diminished quantities on balance, but painters’ colours and pigments expanded from 11,851 cwt. to 161,900 cwt., this being due to the relaxation of import restrictions. The imports of quinine rose from 704 oz. to 1,335,672 oz., which makes a total of 3,437,912 oz. for the seven completed months of the year. With regard to the exports of produce and manufactures of the United Kingdom, food, drink, and tobacco advanced in value by 1,567,000*l.*, raw materials by 6,494,000*l.*, and manufactured articles by 14,955,000*l.*, while miscellaneous and unclassified articles (including parcel post) fell by 1,346,000*l.* There was an increase of 161,716*l.* in the exports of chemicals, drugs, and allied goods, the total being 1,984,955*l.*, but, compared with July 1917, there is a decline of 133,800*l.* A resumption in the exports (1,040 cwt.) of bleaching powder to the United States is noted, and there was a considerable improvement to “other countries” also; coal products,

not dyes, declined in value from 184,436*l.* to 162,982*l.*; soda compounds improved from 431,202 cwt. to 524,560 cwt.; and painters’ colours and materials were extremely active, rising from 39,987 cwt. to 103,755 cwt. The drug and medicine section continues to improve, exports being 78,000*l.* more at 353,500*l.*, of which 45,979*l.* represented quinine and quinine salts.

Import Restrictions.

THE much anticipated speech of the Prime Minister in reference to the future trade policy of the Government leaves matters much as they were in regard to the restrictions upon the importation of those chemicals which are regarded as products of key industries. Although it has been decided that the interim trade policy of import restrictions generally is to come definitely to an end on September 1, it is not to apply to what Mr. Lloyd George describes as “unstable key industries,” two of which he mentions—synthetic dyes and optical glasses and lenses. He proposes that the Board of Trade shall have power to prohibit the import of these goods except under licence, and to prevent excessive imports a fee will be charged for the licence. The Prime Minister might have mentioned that the Board of Trade has been doing this since June 25, when a Proclamation was issued under Section 43 of the Customs Consolidation Act, 1876, prohibiting the imports of “chemicals of all descriptions.” The legality of this Proclamation has been challenged by Sir John Simon, and as the Board of Trade are in doubt about their position it looks as if the consent of Parliament is to be obtained for the Proclamation fathered by Sir Auckland Geddes. We may state that since this Proclamation was issued the importation of many pharmaceutical chemicals, like phenacetin, phenazone, phenolphthalein, amidopyrin, acetanilide, barbitone, sulphonal, methyl sulphonal, etc., has almost entirely ceased. The Licensing Sub-Committee, which sits at Manchester, may know about dye products, but it appears to be ignorant of the requirements of the London chemical trade, and complete chaos has prevailed in that Department owing to the large number of applications and the inadequacy of the staff to deal with them. Personal inquiries at Danlee Buildings, Manchester, we are informed, have proved very unsatisfactory, as the Sub-Committee only meets at intervals, and interviews with those in authority are difficult to secure. This Sub-Committee appears to be invested with inquisitorial powers, and importers are asked, *inter alia*, as to why their requirements cannot be filled in this country. They are also asked to give the name of the actual maker of the product abroad, as well as that of the consignors and other details. The tendency of many of these products which cannot be imported is towards a further advance, and it is easy for the few holders of spot stocks mutually to agree on a “ring” price. The Government has promised certain anti-dumping legislation. The policy announced by the Prime Minister is that goods must not be delivered here by a foreign country at a lower price than that at which they are sold in the country of origin. The definition hitherto accepted is that such goods must not be delivered here at a price below the cost of production—a very great difference. Undoubtedly there have been many occasions when traders have benefited by being able to buy at a price below that at which the article was sold in the country of origin, but organised underselling on the German plan, in order to ruin an industry or prevent one being founded here, is another matter, against which we must defend ourselves. Unless manufacturers are assured of security for their enterprises there will be little inducement to lay down plant for increasing production, so that the Government’s proposals are likely to be stringent. In a word, “dumping” enabled Germany, after a certain period of sacrifice which their Government kindly helped makers to tide over, to drive certain of our chemical-makers out of business, so that the time came when the generous Germans were in a position to control prices; and, as we found to our cost during the war, we were left dependent upon them. The difficult problem of the fluctuations in exchange was also dealt with by the Prime Minister, especially with regard to the United

States. In this connection the American Chamber of Commerce in London has issued a timely warning to the United States, in the course of which it says:

While it may seem all very well that Great Britain should buy from America infinitely more than she sells to America, that is a "fool's paradise" for any American to sit down in at the present time. The more Great Britain has to import from the United States compared with her exports the more sterling exchange on New York is going to drop, and the prohibitive cost of buying United States articles must eventually force Britain to turn to other countries where sterling exchange is higher to get everything she can from them rather than from the United States. The only way out of this is for America to invest in British securities at every possible opportunity and to buy generously all British materials and goods that can be used to advantage. This will give Great Britain the wherewithal to pay for her imports from the United States until she builds up her exports to pay for them, and if this is not done it is obvious that the United States exports to Great Britain must drop off. The American Chamber of Commerce in London feels that it cannot emphasise these facts too highly to the American business man.

The importance of this warning is emphasised by the fact that the New York exchange had a sensational fall this week to a record low level of \$4.11, compared with a normal rate of \$4.86 to the sovereign, the decline being attributed to the proposed removal of import restrictions and the Prime Minister's statement that the exchange rate would not be artificially supported.

Alkali-works Report.

THE Fifty-fifth Annual Report on Alkali Works, issued by the Chief Inspector, and covering the year 1918, shows that the total number of registered works in the United Kingdom is 1,580—two less than the corresponding number in 1917. There was an increase of twenty-six processes of manufacture under inspection as compared with 1917, but these increases were counterbalanced materially by decreases in several classes of works, which, for the most part, were concerned with the output of munitions. The average figures relating to the escape of acid gases are, with one exception, an improvement upon those of last year. A compliment to women-workers may be read in the paragraph announcing reports from many districts of inferior quality and limited quantity of male labour. The inspector goes on to state that associated with this condition is the extended usefulness of female labour, and its satisfactory efficiency for operating manufacturing processes. Several features are significant of the changed outlook which is gradually becoming more general in chemical industries. For example, there is a movement to promote the formation of a central laboratory for the consideration of questions and problems connected with the tinplate industry in South Wales, and an increased tendency towards greater co-operation by firms engaged in the same department of manufacture. Most gratifying of all perhaps is the more general employment of chemists in chemical works. This last point is elaborated in the report, and the well-known remark that a university-trained chemist is useless in works is analysed. A suggested course of training is outlined in which is emphasised the need, in the first place, for a sound, scientific training with enough laboratory work to make the prospective chemist a painstaking and accurate manipulator. Only then should the questions of time-saving and more rapid methods of treatment be taken up. The development of electrolytic methods for producing alkali and chlorine is stated to be very considerable, and it is evident that the Leblanc process is in danger of extinction as a result of this and the ammonia-soda processes. As the report states, however, the demand for hydrochloric acid and salt-cake will still necessitate the double decomposition of common salt and sulphuric acid, but to a much smaller degree, and distributed throughout the country in the smaller works. With regard to the recovery of potash from kiln fume little practical progress is recorded, although this question has received special attention. In complaining that the discharge of all the acid gases formed by the combustion of sulphur in the calcination of zinc sulphide ores occurs in too many

cases, attention is directed to the possibilities of condensing and utilising the sulphur acids by using furnaces of suitable design. Many interesting details are given in the review of the sulphuric-acid works. It is stated that the use of nitrous gases produced by the oxidation of ammonia by catalytic influence, instead of those produced by the decomposition of nitrate of soda with sulphuric acid (referred to last year) was considerably extended. The process has proved to be less costly. The use of nitre-cake, referred to in the report for 1917, instead of sulphuric acid, is likely to become permanent. The total quantity of ammonia products produced from liquor was less than in 1917 by the equivalent of 26,056 tons of sulphate of ammonia. Several reasons for the reduced production are advanced, among them being that the coal supplied was inferior, the use of water-gas was in evidence, and there was also a reduction in the quantity of gas consumed. A process for the manufacture of ammonium sulphate without the use of sulphuric acid has been tried. The aim is to fix the ammonia in gas by means of the sulphur contained in the coal. The gas is first passed through a centrifugal washer and there treated with a solution of zinc sulphate. Zinc sulphide is precipitated and ammonium sulphate recovered from the solution. The precipitated zinc sulphide is converted again into sulphate. The erection of a plant to make a ton of ammonium sulphate a day by this method has been completed, and the process is now undergoing trial on a manufacturing scale.

The Handwriting on the Wall.

WE are indebted to a subscriber for a list of the results of the election for the Local Associations Executive of the Pharmaceutical Society. These we publish elsewhere in this issue. The result of the first election after the by-law betrayal cannot be otherwise than gratifying to all who have at heart the real interest of the craft. Nine of the "wrecker" councillors were candidates for the Local Associations Executive, and five of these have been "fired out." These are Messrs. Cuff, Gifford, Jenkins, Keall, and Neathercoat. Mr. Gifford has had a bad fall, being rejected both as a panel and an association representative. The election result is a good omen for the next Council election. The "wrecker" councillors who secured seats were Messrs. Deakin, Melhuish, Rowsell, and Sargeant. We hope that the other members of the Executive will now take particular care that none of these is elected as Chairman of the Executive. From what we can judge of the members it seems as though the Progressive element will be able entirely to rescue the newly elected Executive from the control of the old gang.

Grants to Demobilised Undergraduates.

THE Appointments Department of the Ministry of Labour has given an interpretation of the expression "higher" education and training in the scheme for assisting demobilised sailors and soldiers. It is not considered that a course of training for a Matriculation examination or for the Preliminary examination of a professional society or a preparatory course of similar character falls within the scope of the training grants scheme, unless such a course is held by a University or institution of corresponding standard. In such cases applicants should be referred to the Education Department concerned. This decision has been reached on the assumption that if a candidate has done war service, and has a reasonably good standard of education, he is in practically all cases exempted from such examination. If he is not in a position to benefit by war concessions, he is not of the educational qualifications which bring him within the scope of the scheme.

HOME-GROWN SUGAR.—The British Sugar Beet Growers' Society is issuing an official organ entitled "Home-grown Sugar." It gives information about the movement for naturalising the sugar industry in this country, especially with reference to the Society's undertaking at Kelham.

HORSES POISONED BY POTATOES.—The recent death of twelve horses on a Lincolnshire farm has been explained by Sir John McFadyean and other veterinary experts as due to the alkaloidal content of the eyes of potatoes, the animals having been given for some time a diet in which potatoes predominated.

EDUCATIONAL INFORMATION

Learning by study must be won, 'twas ne'er entailed from sire to son.

A CERTAIN proportion of those who qualify in pharmacy use it as a stepping-stone to other professions allied to the drug-trade. For these and other inquirers we follow up the educational information given last week on pharmacy with an outline of the methods of becoming a medical practitioner, dentist, veterinary surgeon, analytical chemist, and optician.

Medicine.

The ample remuneration and social position ensured to those who enter the medical profession have much increased its popularity. One has only to compare the generous scale of payment given to doctors under the National Insurance Act with the parsimonious allowances to chemists to see the advantages of the relative positions of the two parties that take a share in supplying the medical benefit to insured persons. The fact also that medical men are strongly entrenched at the Ministry of Health and in other Government Departments is also a guarantee that future extensions of the policy of gradually reserving the practice of medicine and surgery to registered practitioners will ensure that the material interests of the profession will be uppermost. At the same time it should be noted that there may in a few years be such an excess of medical men that the newcomers will not find conditions as easy as they are at present.

Briefly, candidates for the medical profession are required to possess a general education equal to the Matriculation standard of the Universities, and after registration as medical students to take a course of training at a recognised medical school, covering at least a period of five years and normally extending to six years or more. At intervals during the curriculum there are examinations, so that the student clears off the subjects one or two at a time, the strain on the student being in this way much less than in the case of pharmaceutical students. The licensing bodies are of two kinds, the first being the Universities, whose chief aim is education and who grant degrees to students for whose training they are responsible. To the other class belong such bodies as the Royal Colleges of Physicians and Surgeons, who admit to their examinations students from recognised medical schools who satisfy certain prescribed conditions. The supervision of the standard of examination is entrusted to the General Medical Council, which by Section 20 of the Medical Act, 1858, is charged to consider in the case of "the course of study and examinations to be gone through in order to obtain the diploma of doctor, licentiate, etc., whether they are such as to secure the possession of the requisite knowledge and skill for the efficient practice of the profession of medicine," and the Council is required by Section 19 to secure the maintenance of a sufficient standard of proficiency. The Medical Acts do not, however, confer on the Council the power of prescribing the conditions of the curriculum beyond the general power of requiring to be satisfied as to the sufficiency of the course of education and examination. One method of checking these is by the attendance of inspectors at the various examinations who report to the Council, which, however, has only limited power to enforce its views upon a body whose examinations are thought to be insufficient for the requirements of Section 20 referred to above.

Preliminary Examinations.

For all British Universities, with the exception of London and Leeds, and for registration by the General Medical Council as a medical student, English, mathematics, and Latin are compulsory subjects, and one optional subject is required. The Royal College of Physicians of London and the Royal College of Surgeons of England have made Latin optional in the Preliminary examination required for the L.R.C.P., M.R.C.S. diploma. For London and Leeds Universities only English and mathematics are compulsory, and two optional subjects are allowed. In the London Matriculation examination all the subjects must be passed at one examination; in all the others the subjects may be passed at not more than two examinations. There is a Joint Matriculation Board (secretary, 24 Dover Street, Manchester) which governs the Matriculation examinations for the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham. The Welsh University regulations are slightly different, there being four compulsory subjects—Latin, mathematics, English language, and history of England and Wales—and two optional subjects. The College of Preceptors holds a special Professional Preliminary examination twice a year, March and September, in addition to the examinations for the Senior Certificate; and the Educational Institute of Scotland holds a special Medical Preliminary examination at the same times and places as the Pharmaceutical Preliminary. A Preliminary examination is also held by the Royal Colleges of Physicians and Surgeons in Ireland. It should be noted that the Universities do not accept for their degree courses all the Preliminary examinations which the General Medical Council accepts. A student must therefore bear in mind that if he intends taking a degree he must matriculate at that University or see that the Preliminary examination certificate he possesses is one that it accepts. The London Matriculation has the advantage of being accepted by a larger number of bodies than any other examination of a like nature.

Registration as Medical Students.

Those who intend entering the medical profession should obtain a copy of the "Regulations of the General Medical Council in regard to the Registration of Medical and Dental Students" (published by Constable & Co., Ltd., 10 Orange Street, Leicester Square, London, W.C., at 9d. per copy), wherein the conditions for registration of students are given. The student (male or female) must be sixteen years of age, and within fifteen days of beginning he must register as a medical student (fee 5s.), sending with the form of application a proof that he has passed an approved Preliminary examination and a declaration from an official of the school of medicine that he has commenced his medical studies. The addresses of the Registrars to whom, according to the division of the kingdom in which the student is studying, application must be made for registration as medical students are:

The Registrar of the General Medical Council, 44 Hallam Street, Portland Place, London, W. 1.

The Registrar of the Branch Council for Scotland, 54 George Street, Edinburgh.

The Registrar of the Branch Council, for Ireland, 35 Dawson Street, Dublin.

THE CURRICULUM OF STUDY.

laid down by the General Medical Council stipulates that in every course of professional study and examinations the following subjects should be contained:

(1) *Physics*, including the elementary mechanics of solids and fluids and the rudiments of heat, light, and electricity; (2) *Chemistry*, including the principles of the science, and the details which bear upon the study of medicine; (3) *Elementary Biology*; (4) *Anatomy*; (5) *Physiology*; (6) *Material Medica and Pharmacy*; (7) *Pathology*; (8) *Pharmacology and Therapeutics*; (9) *Medicine*, including medical anatomy and clinical medicine; (10) *Surgery*, including surgical anatomy and clinical surgery; (11) *Midwifery*, including diseases peculiar to women and to new-born children; (12) Theory and practice of *Vaccination*; (13) *Forensic Medicine*; (14) *Hygiene*; (15) *Mental Diseases*; (16) *Anæsthetics*.

Instruction in the subjects of the first year of study (chemistry, physics, and biology) is allowed by a few bodies (e.g., the Royal Colleges in England) to be taken at certain approved schools or teaching institutions which are not medical schools, while graduates in arts or science of approved Universities are held to have completed the first year of medical study. In regard to exemption from any of the subjects of examination granted to registered chemists and druggists it may be stated at the outset that there is no general exemption in any subject, except as regards training in practical pharmacy. The Preliminary examination passed must be of the standard laid down in the regulations, but the various Colleges and Universities consider applications for exemption from any part of the medical examinations when the subjects such as chemistry and biology have been taken at approved institutions. Each examining body issues regulations in regard to the studies required by candidates, and the schools of medicine arrange their courses to conform with these regulations.

University Degrees.

In the following paragraphs we indicate concisely the conditions framed by the Universities in the places named for the degrees in medicine and surgery (M.B., Ch.B., or the equivalent degree in medicine and surgery).

ABERDEEN.—At least two of the five years' curriculum must be spent, and at least eight of sixteen specified subjects for M.B., Ch.B. must be taken, in the Aberdeen University, and the rest in some other University or College recognised by the University Court. Four Professional examinations have to be passed at the University. *Secretary*, Mr. D. R. Thom; University of Aberdeen.

BELFAST.—The Faculty of Medicine of Queen's University of Belfast requires students to take at least three of the five years' medical course at the University in Belfast, and pass four medical examinations.

BIRMINGHAM.—Of the five years' curriculum for M.B., Ch.B., three or four (according to circumstances) must be passed at the University. The First Professional examination in chemistry, physics, and biology, may be passed before commencing study in the University. *Secretary*, Mr. Geo. H. Morley.

BRISTOL.—There are three Professional examinations for the M.B., Ch.B. Three of the five and a half years' course of study must be taken in the University. Address, The Dean of the Medical Faculty, Bristol.

CAMBRIDGE.—Students who have not taken the B.A. degree must pass the Previous examination or another accepted examination. The minimum residence at the University is nine terms (three years). Three Professional examinations lead up to the degree of B.C. An Act has also to be kept in the Public Schools, the candidate reading an original dissertation composed by himself on some subject approved by the Regius Professor of Physic before proceeding to the M.B. degree. The Registry is Mr. J. N. Keynes, Sc.D.

DUBLIN.—At least three years of the curriculum must be spent at the University, Trinity College. The degree of Bachelor of Arts must be taken in addition to the M.B. degree. Eight examinations have to be passed during the course. Particulars from Dr. A. F. Dixon, Registrar, School of Physic, Trinity College, Dublin.

DURHAM.—At least one of the five years of medical education must be spent at the University College of Medicine, Newcastle-on-Tyne, and the rest may be taken in approved medical schools. Candidates must satisfy the University in Greek, either in their Preliminary examination or subsequently. Four Professional examinations

are held for M.B. Address the Secretary (Professor Howden), The College of Medicine, Newcastle-on-Tyne.

EDINBURGH.—The conditions and fees are the same as at Aberdeen University. The class-fees differ, and this University Medical School is one of the most famous in the world. Inquiries regarding the Preliminary examination should be addressed to Mr. James Dowie, The University, Edinburgh, and other inquiries to the Dean, Professor Lorrain-Smith.

GLASGOW.—The conditions for the M.B., Ch.B. qualification are almost the same as at Aberdeen. In respect of Professional studies, address Professor T. H. Bryce, M.D., The University.

IRELAND.—The National University confers medical degrees upon persons who have studied professionally at least nine terms at one or more of its constituent colleges (Cork, Dublin, and Galway) and the rest at approved schools. There are four Professional examinations for the M.B., B.Ch., and B.A.O. degrees. The full five years' curriculum is also obtainable at the University College, Dublin.

LEEDS.—Three Professional examinations for M.B., Ch.B., each of which is taken in parts, the fees amounting to 15*l*. Of the five years' curriculum, two years must be spent in the University at Leeds. The Dean of the Faculty of Medicine (Professor J. Kay Jamieson) and the Clerk to the Senate (Mr. F. T. Baines, M.A.) supply information.

LIVERPOOL.—Degrees of M.B. and Ch.B. are granted on similar conditions as at Leeds. Address the Dean of the Faculty of Medicine.

LONDON.—External students are allowed liberal provision as to places of study. The three Professional examinations for both external and internal students are the same. Address the Secretary, The University, South Kensington, London, S.W. 7.

MANCHESTER.—Latin is a compulsory subject for admission; otherwise like Leeds. Two years of the curriculum must be passed at the University, and the Professional examinations taken there. Address Professor Dean, the Dean of the Faculty of Medicine.

OXFORD.—Graduates in Arts are alone eligible for degrees in medicine and surgery. The most convenient course for medical students is to take Responsions, the Preliminary Science examinations, and the Final Honour School of Physiology. The curriculum requires residence in Oxford for seven years. Address the Regius Professor of Medicine, University Museum, Oxford.

ST. ANDREWS.—Degrees are granted on similar conditions to the other Scottish Universities. Students may take the whole of the curriculum at the University College, Dundee, or the first two years in the United College. Address Professor Kynoch, University College Medical Faculty, Dundee.

SHIEFFIELD.—At least three of the five years of the curriculum must be taken in the Sheffield University. The examination arrangements are similar to Leeds. *Registrar*, Mr. W. M. Gibbons, M.A.

WALES.—For M.B., Ch.B., the scheme of study is in two parts, each extending over three academic years, and at least that period must be spent in one of the constituent colleges. Address the Registrar, University Registry, Cathay's Park, Cardiff.

Medical and Surgical Diplomas.

M.R.C.S.ENG. AND L.R.C.P.L.

The Royal College of Physicians of London and the Royal College of Surgeons of England (known as the "Conjoint Board") grant a joint diploma (the "Double Qual.") for registration as a general medical practitioner. There are three Professional examinations during the five years' curriculum subsequent to registration as a medical student—viz. :

First Professional Examination is in chemistry, physics, biology, and practical pharmacy, and it may be taken immediately after passing the Preliminary examination. Candidates must produce evidence of having received instruction in all these subjects, unless they propose to postpone practical pharmacy until a later examination. The course in the first three must be studied at a medical school

or other institution recognised by the Board, but it may be commenced or attended before the candidate passes his Preliminary examination. Six months' instruction in these subjects, taken at a recognised institution other than a medical school, will be counted as part of the Professional curriculum if it is taken subsequent to passing the Preliminary. The subjects may be taken in three parts, but chemistry and physics must be taken together. The fee for the whole examination is 10*l.* 10*s.*

Second Professional Examination is in anatomy and physiology, and both the subjects must be passed at one time. Evidence must be produced that the candidate has spent twelve months in dissecting the whole of the human body and attended courses of lectures in anatomy, physiology, and practical instruction in physiology and histology. The fee for the second examination is 10*l.* 10*s.*

Third or Final Examination.—Before admission, the candidate must produce evidence that he has attended the specified portion of study laid down in the curriculum as set forth in the official regulations. Subjects as in the fourth and fifth years of study.

At least two years must expire after passing the second examination, and the Final cannot be completed before the expiration of five winter and five summer sessions from the date of passing the Preliminary examination. Synopses of the examinations can be obtained from Mr. Frederic G. Hallett, Secretary of the Conjoint Board, 8-11 Queen Square, Bloomsbury, London, W.C.1. The Committee of Management of the Board will consider special cases, arising as a result of the war, as to details of the curriculum.

SCOTTISH TRIPLE QUALIFICATION.

The Royal Colleges of Physicians and Surgeons of Edinburgh, with the Royal Faculty of Physicians and Surgeons, Glasgow, grant three diplomas ("Triple Qual."), which jointly entitle the holder to registration as a general medical practitioner. The examinations are held in Edinburgh or Glasgow, or both. Secretaries, Mr. D. L. Eadie, 50 George Square, Edinburgh, and Mr. Walter Hurst, Faculty Hall, 242 St. Vincent Street, Glasgow.

IRISH DOUBLE QUALIFICATION.

The Royal College of Physicians in Ireland and the Royal College of Surgeons grant a registrable diploma after examinations in Dublin by their Conjoint Board. The Professional examinations number four. The constituent Colleges also grant separate diplomas of L.R.C.P.I. and L.R.C.S.I. For all particulars write to Mr. Alfred Miller, Royal College of Surgeons, 123 Stephen's Green, Dublin.

LONDON APOTHECARIES' DIPLOMA.

The Society of Apothecaries of London grants a diploma (L.M.S.S.A.) in medicine, surgery, and midwifery, there being two examinations—viz., Primary (fee 5*l.* 5*s.*) and Final (in two sections; fees 10*l.* 10*s.* and 5*l.* 5*s.*). Full particulars can be obtained from Mr. Frank Haydon, L.R.C.P., Society of Apothecaries, Water Lane, Blackfriars, London, E.C.4.

DUBLIN APOTHECARIES' DIPLOMA.

The Apothecaries' Hall of Ireland grants its licence to students who have complied with its conditions in regard to curriculum and passed its three Professional examinations. The Registrar, Apothecaries' Hall, 40 Mary Street, Dublin, supplies the syllabus.

Medical Schools.

The following are the recognised medical schools in the United Kingdom :

LONDON.

The following medical schools are constituents of the London University :

Charing Cross Hospital Medical College, Chandos Street, W.C.2. [300 beds].—Primary and Intermediate studies are taken at King's College. Dean, Dr. W. J. Fenton.

Guy's Hospital, London Bridge, S.E. [644 beds].—Fees about 168*l.* There is a residential college in connection with the medical school. Dean, Mr. L. Bromley, M.C.

King's College Hospital Medical School, Denmark Hill, S.E. 5 [300 beds].—Preliminary and Intermediate portions are taken at King's College. Composition-fee (15*l.* 10*s.*)

can be arranged for University course or for Conjoint course. The course for the Final examination only costs 84*l.* Dean, Dr. H. Willoughby Lyle, F.R.C.S. Secretary, Mr. S. C. Ranner, M.A.

London Hospital Medical College, Turner Street, Mile End, E. 1 [933 beds].—Fees (entrance 10*l.* 10*s.*), 31*l.* 10*s.* per annum. Dean, Professor W. Wright; Secretary, Mr. E. J. Burdon.

London (Royal Free Hospital) School of Medicine for Women, 8 Hunter Street, W.C.1.—Composition-fees for the degrees of University of London or the Conjoint Board qualification, 169*l.*; other courses cost 141*l.* Dean, Miss L. B. Aldrich-Blake, M.D.

Middlesex Hospital, Mortimer Street, W. [455 beds].—The fees are arranged on a basis of an annual payment of 30*l.* for the five years of the curriculum. Dean, Dr. H. Campbell Thomson.

St. Bartholomew's Hospital and College, West Smithfield, E.C.1.—Fees, by a single payment, 173*l.* 5*s.* or 47*l.* 5*s.* annually for four years. Dean, Dr. T. W. Shore.

St. George's Hospital, Hyde Park Corner, S.W.1. [436 beds].—A purely clinical school, the annual composition-fee being 31*l.* 10*s.* Acting-dean, Mr. R. R. James.

St. Mary's Hospital, Cambridge Place, Paddington, W.2 [305 beds].—Fees for full curriculum for Conjoint Board 140*l.*, or for University degrees, 145*l.* (5*l.* more if paid in instalments). Dean, Sir John Broadbent, Bart.

St. Thomas's Hospital Medical School, Albert Embankment, S.E.1 [664 beds].—Fees for Preliminary subjects 15*l.* 15*s.* per annum; second-year students, entrance 21*l.*, annual fee for all classes 31*l.* 10*s.*; fourth-year students (after second M.B.), entrance 10*l.* 10*s.*; annual fee 31*l.* 10*s.* Dean, Dr. Edward Stainer.

University College, Faculty of Medical Sciences, Gower Street, W.C.1.—Fees : University of London, First medical examination course, 27*l.* 6*s.*; Second examination course, 60*l.* 18*s.* Composition-fees for the Conjoint Board and Society of Apothecaries' courses, 82*l.* 19*s.* for the First and Second courses. Final M.B. course or Conjoint Board, 84*l.* Clinical instruction, perpetual fee, 47*l.* 5*s.* Dean, Dr. G. D. Thane, F.R.C.S.; Secretary, Mr. Walter W. Seton, M.A.

Westminster Hospital Medical School, Broad Sanctuary and Caxton Street, S.W.1.—Annual composition-fee, 27*l.* 6*s.* Dean, Dr. David de Souza.

OUTSIDE LONDON.

ABERDEEN.—*The University Faculty of Medicine*.—The complete medical course (including class, hospital, and all examination fees for five years' curriculum, and fees for degrees) costs about 160*l.* Clinical practice is obtained in the Royal Infirmary [270 beds] and other special institutions. Dean, Professor T. Shennan.

BELFAST.—*Queen's University of Belfast*.—Complete courses (fees about 120*l.*, including clinical practice) are provided for the medical degrees of this University. Dean of the Faculty of Medicine, Professor Symmers.

BIRMINGHAM.—*University Faculty of Medicine*.—The composition-fees for the M.B. and Ch.B. degrees of the University amount to 158*l.* 2*s.* 6*d.*, but the curriculum enables students to qualify for the other medical degrees and diplomas as well. Clinical instruction is obtained at the General and Queen's Hospitals [together over 500 beds]. Dean, Professor Peter Thompson.

BRISTOL.—*The University Faculty of Medicine*.—Complete curricula are available for the medical degrees of the University of Bristol and of the University of London, and the diplomas of the Conjoint Board and the Society of Apothecaries. Clinical practice is afforded at the Royal Infirmary and General Hospital [together 650 beds]. Inclusive fees (including hospital-practice), 150 guineas. Dean, Professor E. Fawcett.

CAMBRIDGE.—Apply to the Registry, the Registry of the University, Cambridge, for full particulars as to regulations and courses of study. Inclusive expenses average about 110*l.* per academical year.

CARDIFF.—*The University College of South Wales and Monmouthshire* is a constituent college of the University of Wales. The first three years of the medical curriculum

can be taken in the Faculty of Medicine. Dean, Professor D. Hepburn, Cardiff.

CORK.—*University College* is a constituent college of the National University of Ireland, for whose degrees instruction costs about 125*l.*, and for the Irish Conjoint Diploma 142*l.* Dean, Professor A. E. Moore, Cork.

DUBLIN.—*Royal College of Surgeons' Schools of Surgery* (which include the Carmichael and Ledwich Schools) are under the supervision and control of the Council of the Royal College of Surgeons. Total expense of triple qualification (including examination-fees), 160*l.* 13*s.* A students' guide is supplied on application to Mr. Alfred Miller, the Registrar, Royal College of Surgeons, Stephen's Green, Dublin.

School of Physic, Trinity College.—This is carried on under the auspices of the University of Dublin and the Royal College of Physicians in Ireland. Clinical instruction is given at Sir Patrick Dun's Hospital and others recognised by the Board of Trinity College.

University College, Earlsfort Terrace.—A constituent college of the National University of Ireland.

DUNDEE.—*University College.*—The full medical curriculum for the degree of the University of St. Andrews is available at this College, clinical instruction being given at the Dundee Royal Infirmary [400 beds].

EDINBURGH.—*University Faculty of Medicine.*—The minimum fees for the complete curriculum (including hospital practice) amount to about 153*l.* for the M.B., Ch.B., besides 23*l.* 2*s.* for Professional examinations. Dean, Professor Lorrain-Smith, Edinburgh. The University has now taken over the entire medical education of women in Edinburgh.

School of Medicine of the Royal Colleges.—The courses of instruction suit the University medical degrees and other medical qualifications. The minimum cost of the Collegiate triple qualification, including examination-fees, is 120*l.* Address the Dean (Major D. G. Marshall, I.M.S.), 11 Bristo Place, Edinburgh.

GALWAY.—*University College, Galway.*—The Dean of the Faculty of Medicine is Professor J. P. Pye, M.D., from whom full information can be obtained. The College is affiliated to the National University of Ireland, and the fees are similar to those obtaining in Cork.

GLASGOW.—*The University Faculty of Medicine, including Queen Margaret College.*—The course for the M.B. and Ch.B. degrees (including hospital attendance) costs about 150*l.* Dean, Professor T. H. Bryce. Information regarding the women's school is supplied by Miss Melville, Mistress of Queen Margaret College, Hamilton Drive, Glasgow (School of Medicine for Women).

St. Mungo's College.—The fees for the complete medical course, which qualifies for the diplomas of the Conjoint Board, amount to about 70*l.* Clinical teaching is taken at the Glasgow Royal Infirmary [600 beds] and the Royal Maternity Hospital. Dean, Professor Robert Jarдин, M.D., 20 Royal Crescent, Glasgow.

The Anderson College of Medicine, Dumbarton Road.—The classes qualify for all the licensing bodies and the Universities (under certain conditions). Clinical instruction is given at the Western Infirmary, the Royal Infirmary, and the special hospitals. Dean, Dr. John Macintyre.

LEEDS.—*The University Faculty of Medicine.*—The complete medical curriculum costs 201*l.* 9*s.* (including professional fees and cost of books, microscope, etc.). Dean, Professor J. Kay Jamieson.

LIVERPOOL.—*The University Faculty of Medicine.*—The composition-fees for M.B. and Ch.B. course amount approximately to 125*l.* Dean, Professor J. M. Beattie.

MANCHESTER.—*University Faculty of Medicine.*—Composition-fee for M.B. and Ch.B. degrees 75*l.* 10*s.*, and Conjoint Board examinations 87*l.* 3*s.*, with 42*l.* for clinical practice. Dean, Professor H. R. Dean, M.D.

NEWCASTLE-ON-TYNE.—*University of Durham College of Medicine.*—Clinical instruction is given at the Royal Victoria Infirmary. College fees 84*l.* and hospital fees 36*l.* 15*s.* Secretary, Professor Howden.

ST. ANDREWS.—*The University Faculty of Medicine.*—The full curriculum is provided at *University College*,

Dundee, or the first two years may be taken at the United College, St. Andrews. Fees for the complete course (exclusive of examination-fees), 136*l.* 10*s.* Clinical practice is given at Dundee Infirmary [400 beds]. Dean, Professor Kynoch, Medical School, Dundee.

SHEFFIELD.—*University Faculty of Medicine.*—Composition-fees: University Course 80*l.*, and hospital practice (Royal Infirmary and Royal Hospital, over 500 beds), 49*l.* 17*s.* 6*d.* Dean, Professor J. B. Leathes, F.R.S.

We are frequently asked to give an estimate of the cost of acquiring a medical diploma. This is not easy, as the fees for medical education and examination, and for the diplomas, vary. Some chemists have, by combining their medical studies with part-time work, obtained the qualification at economical rates. Taking the cost of living into account and the length of the curriculum, the total cost may be put at 1,000*l.*

Dentistry.

The practice of dentistry is in a somewhat disturbed position, but the omens are favourable to anyone who has a desire to take up dentistry as a profession. The fact that the greater part of the work of a dentist is mechanical makes it necessary that those taking up dentistry should be of a mechanical turn of mind. The report of the Departmental Committee on the Dentists Act which was published earlier in the year was of a somewhat drastic nature, inasmuch as it proposes to forbid entirely the practice of dentistry by unregistered persons—a limitation which has never been carried out in any other country. It is not certain that the Government would be able to carry out such a policy in its entirety, but it may be taken that the goal which is aimed at will be kept in view in any future legislation. Any change of the law will certainly be in favour of the registered men, which is a good reason why students should be attracted more than in the past to dental practice. There is room for a large number of dentists in the public services, which may shortly be established under the Ministry of Health and the demand from the general public is far from satisfied. People of moderate means would patronise registered dentists to a much greater extent if it were not that high charges of the professional man deter them.

Dental Training.

The preliminary procedure in order to become a dentist is the same as that for medicine. One of the Preliminary examinations recognised for registration as a medical student must be passed, the student must then, at an age not under sixteen and at the commencement of apprenticeship or study, register as a dental student. The most generally favoured registrable qualifications are the College Diplomas in Dental Surgery. For these the candidate must (1) be twenty-one years of age, (2) be a registered dental student, (3) have completed his period of attendance on all the subjects of the examination desired, (4) have been subsequently to the date of registration as a student been engaged in professional study for at least four years, and (5) have attended definite courses of instruction at a recognised medical school. The curriculum of the Royal College of Surgeons of England is as follows:

First Course.—Theoretical and practical chemistry and physics: 180 hours' lectures and practical work in chemistry and 120 hours' lectures and practical work in physics. Pass the *Preliminary Science examination* in chemistry and physics, same as that for L.R.C.P. and M.R.C.S.

Second Course.—Two years' instruction in mechanical dentistry; lectures on dental metallurgy, with a practical course; lectures on dental mechanics, with practical work, including the manufacture and adjustment of six dentures and six crowns. Pass the *First Professional examination*—(I.) Mechanical dentistry; (II.) dental metallurgy.

Third Course.—Lectures on dental anatomy and physiology, dental histology, dental surgery, with practical dental surgery; surgery of the mouth, dental bacteriology, dental materia medica, and practical instruction in anaesthetics—these at a dental school and hospital; and the following in

a medical school: Lectures on anatomy, physiology, with practical physiology; surgery, and medicine. Dissections for twelve months. Practice of surgery and clinical lectures on surgery in a hospital for twelve months. Pass the *Second Professional examination*—(I.) General anatomy and physiology, general pathology, and surgery; (II.) dental anatomy and physiology, dental pathology and surgery, and practical dental surgery. Before the final subjects are entered for, the candidate must have completed the four-years' curriculum and be twenty-one years old.

Similar conditions apply to the qualifications of the following colleges, full particulars of which may be obtained from the addresses given:

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Mr. F. G. Hallett, Examination Hall, Queen Square, London, W.C. 1.—Examination and diploma fees, 21*l.*

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—Three years' instruction in medical dentistry requisite. Examination-fees, 15*l.* 15*s.* Clerk, Mr. D. L. Eadie, 50 George Square, Edinburgh.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.—Similar to Edinburgh. Address Mr. Alexander Duncan, Faculty Hall, 242 St. Vincent Street, Glasgow.

ROYAL COLLEGE OF SURGEONS IN IRELAND, Stephen's Green, Dublin.—Examination and diploma fees, 21*l.* The Registrar will furnish further particulars.

UNIVERSITY DEGREES AND DIPLOMAS.

BIRMINGHAM.—The degrees are B.D.S. (Bachelor of Dental Surgery) and M.D.S. (Master of Dental Surgery). Five-years' curriculum, cost 149*l.* 10*s.* L.D.S. (Licentiate in Dental Surgery) must be taken before B.D.S.

BRISTOL.—The degrees are B.D.S. and M.D.S. Inclusive fee for B.D.S., 190 guineas. The L.D.S. costs 168 guineas. The mechanical pupilage can be served in the University Laboratory. Fee 80 guineas.

DUBLIN.—Trinity College grants degrees of B.Dent.Sc. and M.Dent.Sc. to its Arts graduates who have taken the dental curriculum and passed examinations.

National University.—The degrees granted are B.D.S. and M.D.S. Instruction is obtained in the Dental Department, University College, Cork.

DURHAM.—A licence is granted, for which there are four examinations; fees (including diplomas), 15*l.*

LEEDS.—The degrees are B.Ch.D. and M.Ch.D. There is also L.D.S. The approximate cost of the degree, including pupilage-fee and cost of books, instruments, etc., is put down at 27*l.* 12*s.*, and of the diploma 25*l.* 16*s.*

LIVERPOOL.—Lecture-fees for B.D.S. 67*l.* 10*s.*, clinical practice 21*l.* Fees for L.D.S. (Liverpool), 58*l.* 10*s.*; other licensing bodies, 61*l.* 10*s.*; mechanical dentistry and hospital practice, 100*l.* Address Director of Dental Education.

LONDON.—Degree of Master of Surgery in Branch II. Dental Surgery open only to London graduates in medicine. Examination-fee is 20*l.*

MANCHESTER.—The B.D.S. curriculum last five years, and there are four examinations. Composition-fees : B.D.S., 63*l.*; L.D.S., (Manchester) 57*l.* 15*s.*, (R.C.S. Eng.) 63*l.* Dental Hospital fees, 130*l.* or 100*l.*

ST. ANDREWS.—The University grants an L.D.S. diploma, instruction being obtained at University College and the Dundee Dental Hospital.

DENTAL INSTRUCTION.

The following are the dental schools in the United Kingdom where instruction in dental subjects is given:

BIRMINGHAM.—British School of Dentistry, Great Charles Street.

BRISTOL.—Dental Department, The University.

CORK.—Dental Hospital. For degrees of National University of Ireland.

DUNDEE.—Dental Hospital, Park Place.

DUBLIN.—School of Dentistry, Lincoln Place. Fees : 12*l.* 12*s.* for hospital practice, 6*l.* 6*s.* for dental lectures; composition-fee 15*l.* 15*s.* per annum. Dean, Mr. George Sheppard.

EDINBURGH.—Dental Hospital and School, 31 Chambers Street. Fee 31*l.* 10*s.* for two years' hospital practice and outfit of instruments. The professional study and diploma cost 164*l.* 19*s.* Dean, Mr. William Guy, 11 Wemyss Place.

GLASGOW.—Dental Hospital and School, 158 Renfrew Street and 15 Dalhousie Street. Dean, Mr. W. D. Anderson. Dental lectures and two years' hospital practice cost 31*l.* 10*s.*

Dental students can also obtain all their surgical training at St. Mungo's College. Dean, Professor Jardine.

LIVERPOOL.—School of Dental Surgery and Dental Hospital, Pembroke Place.

LONDON.

Guy's Hospital Dental School, London Bridge, S.E.—Complete curriculum for L.D.S. provided; fee, 52*l.* 10*s.* per annum. Instruction in dental mechanics, 52*l.* 10*s.* per annum. Inclusive fee for students for L.R.C.P., M.R.C.S., and L.D.S.Eng. courses of instruction is 199*l.* 10*s.* Dean, Mr. L. Bromley, M.C.

King's College, Strand, W.C.—Composition-fee for L.D.S. course, 36*l.* 15*s.* Dean, Professor W. D. Halliburton.

London Hospital Dental School, Mile End, E.—Fees : Dental mechanics (two years), 150*l.*; full L.D.S. course, 212*l.* 10*s.* Dean, Professor W. Wright. Secretary, Mr. E. J. Burdon.

London (Royal Free Hospital) School of Medicine for Women, 8 Hunter Street, Brunswick Square, W.C.—Courses and bursary for dental students. Dean, Miss L. B. Aldrich-Blake, M.D., M.S.

Middlesex Hospital, Berners Street, W.—Composition-fee, 56*l.* 14*s.* (or by instalments). Dean, Dr. H. C. Thomson, F.R.C.P. Sub-Dean, Mr. J. Strickland Goodall, M.R.C.P., F.R.C.S.

National Dental Hospital and College, University College Hospital Dental School, Great Portland Street, W.—Fee for complete dental curriculum, 180 guineas, or by instalments (four). Dean, Mr. Sidney Spokes.

Royal Dental Hospital of London, School of Dental Surgery, Leicester Square, W.C.—Instruction for L.D.S. (in dental mechanics, two years' hospital practice and lectures) cost 157*l.* 10*s.* The approximate cost of education for the diploma (including fees, books, and instruments) is given as 295*l.* 14*s.* Dean, Mr. W. H. Dolamore.

St. Bartholomew's Hospital, Smithfield, E.C.—Dean of the Dental School, Dr. T. W. Shore.

St. George's Hospital, Hyde Park Corner, S.W.—Annual composition-fee for dental students, 15*l.* 15*s.* Dean, Dr. R. S. Trevor.

St. Mary's Hospital, Paddington, W.—Dental course, 52*l.* 10*s.* Dean, Sir John Broadbent, Bart.

St. Thomas's Hospital, Albert Embankment, S.E.—Dean, Dr. Edward Stainer.

Westminster Hospital, Broad Sanctuary, S.W.—Fees for lectures and general surgical practice for R.C.S. diploma, 52*l.* 10*s.* (if two years only are spent on hospital portion of course). Dean, Dr. S. A. Kinnier Wilson.

MANCHESTER.—The Dental Hospital, Oxford Road, in association with the University of Manchester and the Royal Infirmary. Fee for whole dental hospital practice and training in mechanical dentistry for B.D.S. degree, 130*l.*, or L.D.S. diploma 100*l.* Dean, Mr. J. Hilditch Mathews.

NEWCASTLE-ON-TYNE.—Durham College of Medicine and the Newcastle-on-Tyne Dental Hospital and School, Handysides Buildings, Percy Street. Composition-fee, 43*l.* 18*s.*

SHEFFIELD.—The total minimum fees in the University Dental School for the R.C.S. diploma are given at 166*l.* 10*s.*

Veterinary Surgery.

Contrary to expectation the advent of the motor-car has not rendered the veterinary surgeon less in demand by the community. It has shifted the ground somewhat, but there are still plenty of horses employed in the country. Additional duties which veterinary surgeons carry out under regulations for inspecting meat, milk, and cattle have increased of late years, and the importance of the veterinary surgeon is likely to be enhanced still further with the advance of knowledge.

Veterinary practice in Great Britain and Ireland is subject to the provisions of the Veterinary Surgeons Act, 1881, under which the Royal College of Veterinary Surgeons, Red Lion Square, London, W.C., is empowered to grant licences to practise and to exercise powers similar to those of the General Medical Council. Before commencing study at one of the affiliated colleges, the student must prove to the college which he enters that he has passed an examination in general knowledge similar to those recognised by the General Medical Council.

Veterinary Preliminary.

The subjects of examination are English (including history and geography), mathematics (including arithmetic, algebra, and geometry), and two foreign languages, classical or modern. Up till recently Latin was compulsory for all veterinary students, but the pressure of the modern spirit has compelled acceptance of what will soon be the universal rule. The Educational Institute of Scotland holds examinations at the same times and places as for the Pharmaceutical Preliminary, and the two examinations are much alike, save that history and geography are not required in the Pharmaceutical examination. The latter also may be passed at three sittings, while in the Veterinary all the subjects must be passed at one examination. The same regulations hold good for the College of Precursors' Junior examination, but all the other certificates accepted by the Royal College of Veterinary Surgeons may have been obtained at not more than two examinations.

Veterinary Diploma.

The course for the diploma of M.R.C.V.S., which is the only diploma recognised in the United Kingdom as qualifying the holder to practise veterinary medicine and surgery, lasts over a period of four years, with an examination at the end of each academic year. Particulars of the examinations may be obtained from Mr. Fred. Bullock, Secretary, Royal College of Veterinary Surgeons, 10 Red Lion Square, London, W.C. 1. The subjects are substantially those of the Professional examinations, viz. :

First Professional Examination.—Anatomy of the domesticated animals; chemistry and elementary physics; biology; elementary zoology and botany.

Second Professional Examination.—Anatomy of the domesticated animals; histology and physiology; stable management, the manipulation of animals, and the principles of shoeing.

Third Professional Examination.—Pathology, bacteriology, and protozoology; materia medica and toxicology; veterinary hygiene and dietetics.

Fourth Professional Examination.—Principles and practice of veterinary medicine; meat inspection; principles and practice of veterinary surgery, and obstetrics.

The examination fee for each year is 5*l.*

The Fellowship examination of the Royal College in one of the following subjects—Anatomy, physiology, pathology, helminthology and entomology, pharmacology and toxicology, medicine, tropical medicine, surgery, or sanitary science—is open to members of two years' standing.

Veterinary Degrees.

Veterinary-science degrees are granted by the Universities of Bristol, Edinburgh, Glasgow, Liverpool, London, and Manchester to candidates who matriculate and take the prescribed course of study. These degrees, however, do not in themselves enable the graduate to practise as a veterinary surgeon. An extra year is required to cover the curriculum for a degree. The chief inducement to obtain a degree is the higher professional status which it confers. The matriculation requirements of the particular University whose degree it is desired to obtain must be fulfilled.

Veterinary Colleges

(Affiliated to the R.C.V.S.)

DUBLIN.—*Royal Veterinary College of Ireland*, Pembroke and Shelbourne Roads, Ballsbridge.—The college is conducted by the Department of Agriculture and

Technical Instruction for Ireland.—Fees, 2*l.* per session, with 1*l.* 1*s.* entrance-fee. Registrar, Mr. G. E. Haines.

EDINBURGH.—*Royal (Dick) Veterinary College*, Summerhall (founded 1823).—Entrance and class fees for the complete curriculum amount to 72*l.* 9*s.*, in four payments, with an extra fee of 5*l.* 5*s.* for each subsequent period of ten weeks. Principal, Professor O. Charnock Bradley.

LONDON.—*Royal Veterinary College* (founded 1791; incorporated 1875), Great College Street, Camden Town, N.W.—Educational fee for the four years' course of instruction, 105*l.*, may be paid in four instalments, and 2*l.* 12*s.* 6*d.* library fee. There are also fees for occasional students, from 3*l.* 3*s.* to 8*l.* 8*s.* per subject, and a post-graduate course, fee 10*l.* 10*s.* Principal and Dean, Professor Sir John McFadyean, M.B., M.R.C.V.S., etc.

Science.

One of the indirect effects of the war has been the breaking of the monopoly which Germany formerly held in the manufacture of fine chemicals. It was the lack of scope for the commercial practice of organic chemistry that checked the efforts in this country to train professional chemists. Facilities existed, and there was an outlet for analytical chemists and for those required for controlling the raw materials and products of the factories. Trained chemists were also required for teaching and research, but the scope for chemists was limited by the fact that there was no great dye-making industry. This defect is being made good, but the path to recognition of the essential character of a fine chemical industry has been a thorny one. Dr. H. Levinstein told a London audience recently that the British Dyestuffs Corporation already employs 300 academically trained chemists, and that he anticipates a substantial increase in the number by the end of the year. Thus the outlook for professional chemistry, which is what this section of educational information deals with mainly, is brighter than it has ever been. Those trained in the drug trade have always formed a substantial proportion of the number who become professional chemists, and hence it becomes necessary for us to give briefly the course which must be taken to qualify in chemical science.

Preliminary Education.

The standard of education which a young man requires who desires to obtain a science degree is that of the Matriculation examinations of the Universities, but for the diploma of the Institute of Chemistry the standard need not be so high. Those who are able to pass the Matriculation examination should do so, as it is an advantage to be able at any subsequent time to sit for a Degree examination, the higher status conferred by a degree making this well worth striving after.

The London University Matriculation examination is typical of the entrance standard of the Universities of Great Britain and Ireland. It is an examination for which boys are systematically trained at most of the public schools. For those who have left school the technical colleges and institutes will afford the facilities for study. The approved Preliminary examinations required by those who wish to become students of the Institute of Chemistry include the University Matriculation examinations and the Preliminary examinations of other educational bodies—e.g., the Senior Certificate or Professional Preliminary of the College of Preceptors. The compulsory subjects must be passed at one examination, but in certain circumstances the Council of the Institute of Chemistry accepts evidence that the subjects have been passed in two examinations. For particulars of the London Matriculation apply to the Registrar, University of London, South Kensington, S.W. 7, and for a list of Preliminary examinations approved by the Institute of Chemistry apply to the Registrar, 30 Russell Square, London, W.C. 1.

Science Degrees

The London science degrees are of world-wide repute, and they have the advantage that they are granted to both internal and external students. The examinations

for the B.Sc. are (1) the Matriculation, (2) the Intermediate examination in science, and (3) the Final examination. The Intermediate examination takes place once a year and commences on the first Monday in July. A candidate must have passed the Matriculation examination not later than the preceding January. Candidates are required to pass in any four subjects selected by themselves out of the following: (1) Pure mathematics; (2) applied mathematics; (3) experimental physics; (4) chemistry; (5) botany; (6) zoology; (7) geology; and (8) military science. At least one of the four subjects selected must be taken from among the first three. The fee is 5*l.* 5*s.* Candidates enter either for a pass or for honours.

The Final examination for B.Sc. takes place once a year, commencing on the fourth Monday in October. Candidates must have passed the Intermediate at least a year previously, and the Matriculation at least three years previously. The fee is 5*l.* 5*s.* There are pass and honours sections. For the pass degree the candidate selects three out of thirteen prescribed subjects, while honours candidates take only one subject (of a much higher standard), along with an appropriate subsidiary subject. The degrees Master of Science (M.Sc.) and Doctor of Science (D.Sc.) are also granted.

The English provincial, Irish, Scottish, and Welsh Universities confer the B.Sc. degree (*cum curriculo*). As a rule the curriculum extends to three years after matriculation, with examinations at the end of each session. The degrees are granted in several branches—*e.g.*, agriculture, biology, botany, chemistry, engineering, mathematics, and physics. In the earlier stages of the curriculum all students study together, the differentiation according to the special subjects taking place later.

Diplomas for Analytical Chemists.

In professional chemistry the qualification of the Institute of Chemistry of Great Britain and Ireland (30 Russell Square, London, W.C. 1) is most sought after by pharmacists, for whom Branch E (analysis of foods and drugs, water, etc.) has special attractions. The Institute was founded in 1877, and incorporated by Royal Charter in 1885 with the aims of elevating the profession of chemistry and maintaining the efficiency, integrity, and usefulness of persons practising chemistry. Examinations are conducted periodically for the associateship of the Institute (A.I.C.). Associates who have been continuously engaged in applied chemistry for three years may obtain the Fellowship (F.I.C.), which is now practically essential for certain public appointments—*e.g.*, public analysts. The conditions for registration and examination are as follows:

Studentship.—Candidates must register at the Institute (30 Russell Square, London, W.C. 1) as students. They must be at least seventeen years of age and have passed an approved Preliminary examination, and at the time of application be training at a recognised institution or under a Fellow of the Institute. Annual registration-fee, 1*s.*

Intermediate Examination.—The course of study required includes theoretical and practical chemistry, physics, mathematics, and a fourth subject selected from the following: Higher physics, advanced mathematics, mechanics and chemical engineering, metallurgy, geology and mineralogy, physiology, bacteriology, agriculture, elementary botany, and elementary biology. Candidates must have studied the requisite subjects at an approved college for three years, or have been pupils with a Fellow of the Institute for two years and attended college for two more years, or have graduated in chemistry and physics at a recognised university. Examination-fee, 5*l.* 5*s.* Annual subscription of associates, 1*l.* 1*s.* 6*d.*

Final Examination.—In addition to a general knowledge of chemistry, special knowledge is required in one branch to be selected by the candidate—*viz.*, mineral chemistry, physical chemistry, organic chemistry, analysis of food, drugs, fertilisers, and feeding-stuffs, soils and water (including a compulsory examination in therapeutics, pharmacology, and microscopy), or biological chemistry. Candidates for the examination in chemistry of food and drugs, etc., are required to produce evidence of training in elementary botany. Candidates in the branch of biological chemistry must show that they have taken a course of elementary biology. All candidates for the Final examination are required to translate French and German technical

literature into English, with the aid of dictionaries, to the satisfaction of the examiners. Candidates who have taken first- or second-class honours in chemistry, or have obtained special distinction in chemistry for the Degree examination of an approved University, can, generally speaking, be admitted directly to the Final examination. Examination fee 5*l.* 5*s.*, or 10*l.* 10*s.* for those who are excused the Intermediate. The annual subscription paid by Fellows is 2*l.* 2*s.*

Some special concessions in regard to the admission of Associates have been made recently, as the result of complaints against the exclusiveness of the Institute, and candidates who have been prevented by war conditions from presenting themselves for examination can be elected associates. The Council of the Institute decides each case upon its merits.

Science Schools.

The following are the principal institutions at which science instruction can be obtained. For further particulars students should apply to the Secretary of the institution they propose to enter:

ABERDEEN.—*University.*—Degree courses in science. *Robert Gordon's Technical College* includes a well-equipped Chemical Department (as well as Pharmaceutical) and other classes in allied applied science.

ABERYSTWYTH.—*University College of Wales.*—Science course, 16*s.* per session (with practical work). Registration fee, 1*l.*

BANGOR.—*University College of North Wales.*—Inclusive fees as at Aberystwyth.

BARROW-IN-FURNESS.—*Technical Schools, Abbey Road.*—Evening classes in chemistry are available.

BELFAST.—*Queen's University.*—Class fees in the Faculty of Science, from 1*l.* 1*s.* to 3*l.* 3*s.* each subject, except practical chemistry, the fee for which is 7*l.* 7*s.* *Municipal Technical Institute.*—Chemistry classes, 7*s.* 6*d.* to 10*s.* per session.

BIRMINGHAM.—*University.*—B.Sc. curriculum (pure science), 15*s.* to 28*s.* per annum. *Municipal Technical School, Suffolk Street.*—Evening classes in chemistry, botany, and physics; fees, 5*s.* to 10*s.* per session (botany from 2*s.* 6*d.*).

BLACKBURN.—*Municipal Technical School.*—Day and evening classes are available in chemistry, physics, and botany.

BRADFORD.—*City Technical College.*—Day technological diploma courses, extending over three or four years, in chemistry and dyeing. Fee, 16*l.* 16*s.*

BRIGHTON.—*Municipal Technical College.*—Day courses for University of London examinations; fee, 5*l.* 5*s.* per term.

BRISTOL.—*University.*—Degree courses for B.Sc., M.Sc., and D.Sc. *Merchant Venturers' Technical College.*—Chemistry, physics, and Nature-study classes (evening), 10*s.* per subject.

CAMBRIDGE.—*University.*

CARDIFF.—*University College of South Wales and Monmouth.*

CORK.—*University College.*—A constituent College of the National University of Ireland. Class-fees usually 1*l.* to 3*l.*, except practical chemistry and post-graduate courses, 5*l.* to 10*l.* each.

DERBY.—*Technical College.*—Classes in chemistry, botany, and physics. Fees: Day, 10*l.* 10*s.* per course, or 10*s.* 6*d.* per subject per term; evening, 10*s.* 6*d.* to 1*l.* 1*s.* per annum.

DUBLIN.—*Royal College of Science.*—Similar to the Imperial College in South Kensington. Three years' course for A.R.C.Sc.I. in chemistry (pure and applied) and other branches. *Trinity College.*

DUNDEE.—*University College.*—Day classes in botany, chemistry, and physics; fees, 1*l.* 1*s.* 6*d.* to 4*l.* 4*s.* for each winter or summer session. *Technical College.*—Central Institution for eastern counties of Scotland for technical and art instruction, particularly engineering and textile.

EDINBURGH.—*Heriot Watt College, Chambers Street.*—The day chemistry course is recognised by the University of Edinburgh and the Institute of Chemistry; composition-fees, 12*l.* 17*s.* to 16*l.* 16*s.* for the winter course and 3*l.* 3*s.* to 6*l.* 6*s.* for the summer laboratory course. Evening classes in chemistry, botany, physics, pharmaceutics, and mycology cost from 5*s.* to 21*s.* per session.

EXETER.—*Royal Albert Memorial University College.*—The composition-fee for the degree course in science is 12*l.* 12*s.* to 18*l.* 18*s.* per annum. Evening classes in science, 5*s.* to 10*s.* per subject each session. Dispensing, evening course 1*l.* 1*s.* per term.

GALWAY.—*University College.*

GLASGOW.—*University.*—The class-fees for the degree courses in science range from 1*l.* 1*s.* to 4*l.* 4*s.* per session

for each subject, with higher fees (10*l.* 10*s.*) for practical chemistry. There are also inclusive fees. *The Royal Technical College*.—Day classes in chemistry, 1*l.* 11*s.* 6*d.* to 3*l.* 3*s.* The day and evening classes include chemistry, technical chemistry (oils and fats, fuel, gas-manufacture, sugar-manufacture, dyeing), physics, botany, and bacteriology; fees, from 2*s.* 6*d.* to 2*l.*

HALIFAX.—*Municipal Technical College*.—Evening classes in chemistry, 7*s.* 6*d.* per course. Day classes, 4*l.* 4*s.* per course.

HUDDERSFIELD.—*Technical College*.—Full-day (fee, 6*l.* 6*s.* per session) and evening courses (fee, 15*s.* per session) in chemistry, physics, botany, and other science and technological subjects such as the chemistry and manufacture of dyes.

HULL.—*Municipal Technical College, Park Street*.—Evening classes in organic and inorganic chemistry; fees, 7*s.* 6*d.* to 10*s.* per course. B.Sc. day course 9*l.* 9*s.* per session.

LANCASTER.—*The Storey Institute*.—Evening classes in chemistry, physics, and botany; fees, 7*s.* 6*d.* per course (including practical work), or 4*s.* per subject.

LEEDS.—*University*.—The composition-fee for science degree course is 27*l.* 11*s.* per annum for the first three years and 21*l.* 11*s.* for the fourth year. *Central Technical School, Cookridge Street*.—The sessional fee for the evening courses in chemistry is 7*s.* 6*d.* to 15*s.*

LIVERPOOL.—*University*.—Degree courses in science; fees, 3*l.* to 4*l.* per course. Laboratory, 6*l.* to 21*l.*

LONDON.

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY, South Kensington, S.W. 7.—This is a national institution, and comprises the Royal College of Science, the Royal School of Mines, and the City and Guilds (Engineering) College. Year by year the College gathers students who have gained science scholarships in the examinations conducted under the Board of Education, including the Royal Exhibitions and National and Whitworth Scholarships. Government chemists are also trained at the Royal College, and private students are received for systematic training to qualify them for various pursuits in applied science. Entrants should have passed the Matriculation examination of the London University or its equivalent or the Entrance examination of the College. The courses of instruction extend to three years at least. The fees vary from 36*l.* 10*s.* to 45*l.* 10*s.* a year. The diploma of A.R.C.S. (Associate of the Royal College of Science) is granted in mechanics, physics, chemistry, botany, zoology, and geology after three years' study; of A.R.S.M. after four years' training in mining, metallurgy, and the technology of oils, etc.; and of A.C.G.I. after three years' study in engineering. In all cases examinations are held in each academic year on the work of the year. The diploma of the Imperial College of Science and Technology (D.I.C.) is also awarded on similar conditions.

BATTERSEA POLYTECHNIC, Battersea Park Road, S.W. 11.—Complete day and evening courses in chemistry, botany, physics, and engineering. There are also special evening classes in bacteriology; food and drug analysis; oils, fats, and soaps; and "recognised" London B.Sc. courses. Fees range from 1*l.* 5*s.* to 13*l.* 15*s.* per session for day students and from 5*s.* to 12*s.* 6*d.* per session for evening classes.

BIRKEBECK COLLEGE, Chancery Lane, E.C. 4.—Complete courses (day and evening) for University of London science degrees and other examinations in science.

BOROUGH POLYTECHNIC INSTITUTE, Borough Road, S.E. 1.—A series of ten technical lectures on essential oils will commence in September. Fee, 5*s.*, or 10*s.*, including practical work. Foodstuffs, electro-chemistry, and laundry materials are the subjects of other courses. Chemistry classes are also held, beginning in September; fees, 5*s.* to 10*s.* per session.

CITY OF LONDON COLLEGE, White Street, Moorgate, E.C. 2.—Evening classes in chemistry (pure and commercial) cost 15*s.* per session for non-members.

CITY AND GUILDS TECHNICAL COLLEGE, Leonard Street, City Road, Finsbury, London, E.C. 2.—Day courses in applied chemistry. The fees for the three years' course are about 75*l.* per annum.

EAST LONDON COLLEGE, Mile End Road, E. 1.—Classes in chemistry, mathematics, physics, and botany. Intermediate, Final, and Honours B.Sc. courses; day 10*l.* 10*s.*, evening 5*l.* 5*s.*

KING'S COLLEGE, Strand, W.C. 2.—The composition-fee in the Faculty of Science is 31*l.* 10*s.* per annum. Dean: Professor Arthur Dendy, D.Sc.

NORTHERN POLYTECHNIC INSTITUTE, Holloway, N. 7.—The composite fees for the Intermediate and Final B.Sc. courses are: Day, 15*l.* per annum; evening, 2*l.* 10*s.* to 5*l.* 15*s.* per session. Evening classes in chemistry, botany, physics, and photography cost from 5*s.* to 50*s.* each subject.

ROYAL HOLLOWAY COLLEGE, Englefield Green, Surrey.—For

women students only, mainly residential. Degree courses in science; fee, 33*l.* 6*s.* 8*d.*, or without residence, 12*l.*

SIR JOHN CASS TECHNICAL INSTITUTE, Jewry Street, Aldgate, E.C. 3.—Evening courses in chemistry, physics (fees, 4*s.* to 10*s.*), also on fermentation industries, fuel, metallurgy, and mining (fees, 5*s.* to 10*s.*). Composition-fees for B.Sc. course, from 30*s.* to 3*l.*

SOUTH-WESTERN POLYTECHNIC, Manresa Road, Chelsea, S.W. 3.—Day and evening courses in chemistry and botany. Fees for the B.Sc. course: Day, 15*l.*; evening, 3*l.* per session. Classes are also held on food and drugs analysis.

TECHNICAL COLLEGE, Leonard Street, Finsbury, E.C. 2.—Constituent of City and Guilds of London Institute. Fees for courses in industrial and technical chemistry, under the direction of Professor R. Meldola, F.R.S., 20*l.* per session. Electrical, civil, and mechanical engineering are features of this College. Full particulars are given in the official programme, which may be had from the Principal.

UNIVERSITY COLLEGE, LONDON, Gower Street, W.C. 1.—Fees for three years' B.Sc. course, including chemistry, 11*l.* 1*s.*

WANDSWORTH TECHNICAL INSTITUTE, High Street, Wandsworth, S.W.—Evening classes in science; fee, 5*s.* to 15*s.* per subject.

WEST HAM TECHNICAL INSTITUTE, Romford Road, E. 15.—Evening and day classes in chemistry and physics.

Woolwich Polytechnic, Lower Market Street, Woolwich.—Classes in chemistry and botany; fees, 7*s.* 6*d.* to 12*s.* 6*d.*

MANCHESTER.—*University*.—Degree courses in science; fees, 20*l.* to 35*l.* per session. The *School of Technology* also provides specialised instruction in applied chemistry.

NEWCASTLE-UPON-TYNE.—*Armstrong College*.—Fees for curriculum of B.Sc. Durham in pure science, 60*s.*

NORWICH.—*Technical Institute*.—Evening classes in chemistry and physics; fees 3*s.* 6*d.* to 15*s.* per session. Classes in practical chemistry and practical physics are held on two mornings per week.

NOTTINGHAM.—*University College*.—London University B.Sc. day course in chemistry; composition-fee, 6*l.* per term. Evening classes in chemistry, physics, botany; sessional fees, 7*s.* 6*d.* per class to 10*s.* per course.

OXFORD.—*University*.

PLYMOUTH.—*Municipal Science, Art, and Technical Schools*.—Day courses in science subjects cost 1*l.* to 5*l.* 5*s.* per subject, or degree course 12*l.* 12*s.* to 15*l.* 15*s.* per session. Evening classes 5*s.* to 10*s.* each, or course of study 10*s.*

PORTRSMOUTH.—*Municipal College*.—Instruction in science subjects (including chemistry, physics, and botany) costs from 3*s.* 6*d.* to 15*s.* per course at evening classes and 5*l.* 5*s.* to 10*l.* 10*s.* per session at day classes.

READING.—*University College*.—B.Sc. course for London University examination, 24*l.* per session. Evening classes in chemistry and botany, fees from 7*s.* 6*d.* to 1*l.*

ROCHDALE.—*Municipal Technical School*.—The fees for chemistry and botany (evening classes) are 6*s.* per subject, practical work included.

ST. ANDREWS.—*United College*.—Class fees in University degree course are from 1*l.* 11*s.* 6*d.* to 4*l.* 4*s.* per subject during the summer session and 3*l.* 3*s.* to 4*l.* 4*s.* in the winter session. All graduating students pay an inclusive fee, which covers a stated number of courses.

SALFORD.—*Royal Technical Institute*.—Two years' day course, for which a diploma, endorsed by the Board of Education, is awarded. Fees, 5*l.* 5*s.* to 12*l.* 12*s.* Evening courses in chemistry and physics, qualifying for "course" certificate. Fees, 7*s.* 6*d.* to 1*l.* 5*s.*

SHIEFFIELD.—*University*.—Degree courses in science. Sessional lecture fees, 1*l.* 11*s.* 6*d.* to 4*l.* 4*s.* per course; laboratory fees, 2*l.* 12*s.* 6*d.* to 16*l.* 16*s.* per session. Evening classes in botany, chemistry, and physics, fee 10*s.* 6*d.* per course for each subject, and practical work 1*l.* 10*s.* *Central Secondary Evening School*.—Classes in chemistry and botany; fees, 4*s.* to 5*s.* per subject.

SOUTHAMPTON.—*Hartley University College*.—B.Sc. course; composition-fee, 24*l.* per session. Evening science classes at low fees.

SWANSEA.—*Technical College*.—Evening classes in chemistry, physics, and botany: fee, covering all subjects, 10*s.* per session. Day courses are held for degrees in science.

Optical Diplomas.

The foundation of an optical department at the Imperial College of Science and Technology marks the definite recognition of the science of applied optics. This is a direct outcome of the war, which brought out the necessity for maintaining a national optical industry. The industry developed enormously during the war, the manufacture of optical glass and optical instruments having been brought up to a high standard of efficiency. Chemists

are especially interested in the work of sight-testing and spectacle-fitting, which has for some years been recognised as particularly fitted as an accessory to the business of a chemist. Ophthalmic optics, like pharmacy, suffers from its position as a "handmaid" to medicine, which subjects it to the jealousy of the medical profession, although here and there there are doctors who willingly send patients who require glasses to a qualified optician. Medical men do not, as a rule, receive special training in sight-testing. There is no legal qualification required in order to practise as an optician, but it is desirable that pharmacists taking up this side-line should possess the diploma of one or other of the examining bodies as evidence of training and of their skill and competency to undertake the work of sight-testing and spectacle-fitting. The optical business is now placed on a proper scientific basis, largely on account of the examinations in optics instituted towards the end of last century by the Spectacle-makers' Company and the British Optical Association. These examinations, which have developed into very complete tests of knowledge in ophthalmic optics, have always been well-supported by pharmacists, who frequently follow up the Minor examination by taking a diploma in optics. We also direct attention to the advantages to chemists who are interested in optics of becoming connected with the Society of Chemist Opticians, which was founded in the interests of chemists carrying on an optical business. Membership carries with it a weekly journal ("The Optician"). The Hon. Secretary is Mr. J. Harcombe Cuff, 25 Friern Barnet Road, London, N.

DIPLOMA SCHEMES.

SPECTACLE-MAKERS' COMPANY, 11 Temple House, Temple Avenue, London, E.C. 4.—The diploma scheme of the Company was founded in 1898, and has been revised at intervals on progressive lines. There are now over 1,000 holders of the Company's diploma, and a good proportion of these are chemists.

There are two divisions of the examinations for the diploma in visual optics and sight-testing :

(1) The Preliminary division, consisting of (a) optical bench work, (b) a *viva-voce* examination in general and practical optics, (c) a written examination in optical calculations and practical optics, and (d) a practical examination in the neutralisation of lenses and lens-setting.

(2) The Final, consisting of (e) practical examination in frame adjustments and measurements, and optical prescriptions, (f) *viva-voce* examination in visual optics, (g) written examination in visual optics, and (h) practical examination in the adaptation of lenses to correct errors of vision.

Candidates over the age of forty years, who have spent ten years in the optical industry, are exempt from section (c) of the Preliminary division. The examinations are held in London early in May and November of each year. The next examination will be held at St. Bride Institute, Ludgate Circus, E.C., in the first week of November. Entries must be received three weeks before the date of the examination.

The list of books recommended for students is given in the syllabus. The fees are 3*l.* 3*s.* for each of the two divisions of the examination, and in addition there are Government registration-fees, etc., amounting to 4*l.* 4*s.*, payable when the diploma is issued. Those who take up the freedom of the City of London, which they are entitled to claim when they have become freemen of the Spectacle-makers' Company, can do so on payment of one guinea on their being accepted by the Corporation. There is an annual payment of 4*s.* to the Company for "quarage." The full prospectus, with application form, can be obtained from the Clerk of the Company, 11 Temple House, Temple Avenue, London, E.C. 4.

THE BRITISH OPTICAL ASSOCIATION (Incorporated 1895). Secretary, Mr. J. H. Sutcliffe, F.B.O.A., 10 Clifford's Inn, London, E.C. 4.—The Association's examination scheme consists of two grades of examination, Membership (Intermediate certificate) and Fellowship, and these are held in London twice yearly (May and November), or in the provincial centres when a sufficient number of candidates desire it. The examination for the Intermediate

consists of three sections, two being practical and the third theoretical. The theoretical part can be taken separately and in advance of the practical work, although no certificate is given until the practical examination is passed. The subjects in which the candidate is examined are lenses, frames, subjective sight-testing, dissection, physical optics, physiological optics, anatomy and physiology of the eye, photometry, and ethics.

For the Fellowship examination candidates must hold the Intermediate or dioptic certificate, and are examined in similar subjects as before, but a deeper knowledge is required, and prismetry, ophthalmoscopy, embryology, and microscopical demonstrations are included. The examination-fees are : Intermediate certificate, 5*l.* 5*s.*; Final (Fellowship grade), 5*l.* 5*s.*

Optical Instruction.

The following are the principal schools where instruction can be obtained in optics and in preparation for the examinations of the bodies mentioned :

THE BRITISH OPTICAL INSTITUTE, LTD., Fern Lodge, 20A Grove Road, Brixton, London, S.W. 9, offers every facility for the instruction of those wishing to prepare for the examinations of the British Optical Association and the Spectacle-makers' Company. The necessary tuition is obtainable at day and evening classes or by a system of postal correspondence. The Institute is well equipped for the special teaching of practical sight-testing in the clinic classes under the guidance of well-trained instructors. Good examination results are shown. Two scholarships are awarded each term to students gaining the highest marks at their examinations. Vacation classes, with individual attention, not necessarily for examination purposes, are held during the months of August and September. A special scheme of optical instruction is in operation for demobilised sailors and soldiers. The Principal is Dr. Max Coque, B.Sc.

MR. LIONEL LAURANCE, Institute of Optics, 2 Guildford Place, Russell Square, London, W.C. 2, conducts courses of instruction in preparation for the examinations of the Spectacle-makers' Company. The tuition is both in class and by correspondence. The fees for the Preliminary division of the examination are 4*l.* 4*s.*, and for the Final division in sight-testing 4*l.* 4*s.* Mr. Laurance is Official Instructor to the Spectacle-makers' Company, and is the author of the text-books for the Company's examinations—"General and Practical Optics" and "Visual Optics and Sight-testing."

THE NORTHAMPTON POLYTECHNIC INSTITUTE, Clerkenwell, London, E.C. 1.—The full course of technical optics occupies two years, and consists of lectures, laboratory work, drawing-office work, tutorial classes, and workshop practice. A diploma in technical optics is awarded on the completion of a two years' course with satisfactory records in examination and class work. Evening students also receive certificates of attendance and satisfactory progress. The winter term begins late in September. The fees for the full-time day course are 15*l.* per session (September to July). Partial courses (two afternoons a week) may also be taken, for which the fee is 3*l.* per session, and there are afternoon classes suitable for chemists in business who cannot leave during the whole day. The entire field of optics is covered both theoretically and practically, and students can specialise either in opticians' work or in optical-instrument making. The prospectus of the optical department can be had by applying to Dr. R. Mullineux Walmsley, the Principal.

A JUBILEE WITHOUT FESTIVITIES.—As a result of the unsettled times through which Germany is passing at present, the jubilee of the Helfenberger Fabrik vom Eugen Dieterich in Helfenberg, near Dresden, was passed on August 1, 1919, without any festivities to mark the event. The company was founded by Eugen Dieterich, who died in 1905. The present managing director is Professor Dr. Karl Dieterich, who was fifty years of age on July 31. It is proposed to erect a monument to commemorate the founder, as well as those who fell in the war.

Trade Report.

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garrisoning and the like. Qualities of chemicals, drugs, oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C. 4, Aug. 21, 3 p.m.

THE Prime Minister's speech in regard to the future trade policy of the country has left a depressing effect on business this week, as he has said nothing to relieve the uncertain outlook, and has failed to give commerce a lead at a critical period. The proposals are regarded as obscure and contradictory, so that the present hand-to-mouth system is likely to prevail for a considerable period pending further legislation in the autumn, the effect of which nobody can predict. Although import restrictions are to be removed from September 1, those on products of the "key industries" are to remain under the dubious clause of the Customs Consolidation Act. The fine chemical group presents few changes; an outstanding feature is the temporary scarcity of potash bromide crystals, and it is difficult to get further offers from America. Paraldehyde, creosote ex beechwood, and lithia carbonate are firmer. Benzonaphthol, benzoic acid, and coumarin are lower. Citrates have been reduced 3d. to 6d. per lb. Changes among crude drugs include a higher market for balsam tolu and Chinese galls. Colocynth is firmer, and saffron has advanced in Spain. Senega is firm and in fair demand. Cascara sagrada is steady, and ergot has sold more freely, as better supplies have become available. Among essential oils, eucalyptus has been in improved demand, and prices are firmer. Japanese oil of mint and star anise are easier. Clove oil is dearer, and turpentine has advanced sharply at the close. Several of the fixed oils, including linseed and Chinese wood oil are easier; castor is firm. Other alterations include a slight advance in mercury, but the salts are officially unchanged. Shellac has been quieter, but again dearer.

| Higher | Firmer | Easier | Lower |
|-------------|-------------|----------------|----------------|
| Balsam tolu | Colocynth | Anise oil, | Benzo- |
| Clove oil | Creosote ex | star | naphthol |
| Cloves | beechwood | Benzoic acid | Comarin |
| Galls | Eucalyptus | Egg-yolk | Ferri et |
| (Chinese) | oil | Farina | ammon. cit. |
| Lithia | Paraldehyde | Mint oil (Jp.) | Linseed oil |
| carbonate | Potash | Pepper | Potash citrate |
| Quicksilver | bromide | Wood oil (Ch.) | Soda citrate |

The drug-auctions will be held next Thursday, August 28.

ALBUMEN.—Chinese egg on the spot is quoted at 5s. 0½d. per lb., and July-September shipment at 4s. 11½d. c.i.f.

ALOES.—The exports from the Union of South Africa during May 1919 amounted to 78,450 lb. (761t.), against 30 lb. (1t.) in May 1918. During the five months ended May 31, 1919, the exports were 575,056 lb. (5,913t.), against 155,180 lb. (1,331t.) during the corresponding period of May 1918.

AMIDOPYRIN is somewhat scarce at 50s. per lb. on the spot.

ANISE OIL, STAR, is quiet, with sellers of "Red Ship" brand on the spot at 5s. 4½d. per lb.

ARSENIC has been in steady demand, and the market rules firm, with comparatively light supplies. Quotations for best white Cornish powder range up to 60d. per ton, although the market shows some irregularity, with business possible at well under that figure in some directions.

ASPIREIN is unchanged at 4s. 6d. per lb., and 5s. for small lots.

BALSAM TOLU is dearer at 7s. 6d. per lb. on the spot.

BENZOIC ACID ex toluol is slightly easier, importers offering at 5s. 6d. to 6s. per lb., as to quantity.

BENZONAPHTHOL is about 2s. 6d. per lb. cheaper, importers offering at 2s. 6d. to 2s. 6d. per lb., as to quantity.

BROMIDES.—There is a temporary scarcity of potash crystals on the spot, and it is difficult to secure offers from the United States, the hot weather having curtailed manufacture of crystals. Price on the spot is therefore nominal and a matter of arrangement; granular is firmer at 3s. 6d. Sales of soda have been made at 2s. 7d., and ammon. is 2s. 11d. to 3s. per lb.

BITCHU remains firm, with rather more available, good round green offering at from 7s. 9d. to 8s. per lb. The exports from the Union of South Africa during May 1919 amounted to 15,479 lb. (4,171t.), against nil in 1918. During the five months ended May 31, 1919, the exports were 83,958 lb. (18,027t.), against 59,583 lb. (9,871t.) during the corresponding period of 1918.

CALUMBA is slow of sale, dull natural to fine bold sorts offering at from 85s. to 95s., and fine bright bold washed at 125s. per cwt.

CAMPBOR (REFINED).—Japanese slabs are quiet, with spot sellers at 13s. 6d. per lb.

CASCARA SAGRADA is steady at from 115s. to 120s. per cwt. for three- to four-year-old bark on the spot, and 112s. 6d. for one to two year old.

CITRATES.—Makers' prices have been reduced, potash by 6d. per lb., soda by 3d. and ferri et ammon. cit. by 3d. per lb.

CLOVE OIL is dearer at 15s. per lb. from distillers.

CLOVES.—Zanzibar are dearer, with spot sales at 1s. 9d. per lb. and sellers.

COLOCYNTH is firmer on the further reduction of stocks, good pale Turkey apple being held for 1s. 9d. per lb. Pith is offered at 1s. 5d. to 1s. 7d. for ordinary to good. Spanish apple is 1s. 6d.

COD-LIVER OIL.—Although 475s. per barrel c.i.f. is quoted for finest non-congealing oil for prompt shipment, it can be bought on the spot at 445s. per barrel.

COUMARIN can be bought at 50s. per lb. in several quarters.

CREEOSOTE (BEECHWOOD) is firmer at from 8s. to 8s. 6d. per lb., according to packing.

ERGOT has been selling more freely, including Spanish on the spot at from about 14s. to 15s., and near at hand at from 12s. to 13s.; also August-September shipment at about 11s. to 11s. 6d. per lb.

EUCALYPTUS OIL has been in better demand, with prices showing an upward tendency. B.P. oils offering at from 2s. 7½d. to 2s. 9d. per lb.

FARINA is dull and easier, with spot sales of No. 1 Japanese at 43s. per cwt., and afloat is quoted at 46s. 6d. c.i.f. Sweet-potato flour is quiet at 42s. on spot.

GALLS.—Chinese are dearer, the sales including plum-shaped up to 140s. to 145s. per cwt., and ordinary at 130s. on the spot.

HEX-YOLK is quiet and easier, with sellers of Chinese 2 per cent. at 210s. on the spot, 190s. afloat, and 180s. c.i.f. for July-September shipment. Dried whole on the spot is 3s. 3d. and afloat 3s. c.i.f. Dried yolk is 2s. 3d. per lb. on the spot and 2s. 1d. c.i.f. for July-September shipment.

HYDROQUINONE.—American makers have cut the price to \$2.00 to \$2.05 per lb. in bulk. Sellers in London quote from 11s. 6d. to 12s. 6d. per lb.

LEMON OIL.—A Sicilian advice, dated August 9, states that "After our last report the local demand continued to keep the market busy for a few days, and although buyers abroad did not seem to follow the advance which had taken place, full prices were readily paid by local buyers who had to cover requirements for shipment. During the course of this week business has been generally slack, local interest having also given way; however, the partial inactivity has not had any effect on the mood of sellers, who are still very firm and asking full prices."

LINSEED OIL is easier and nominal at 112s. per cwt. net naked, and Hull is 109s. per cwt.

MENTHOL is steady, with spot sellers of Kobayashi-Suzuki at 35s. per lb., and a small business has been done at this figure.

MERCURIALS.—Although mercury was advanced by 10s. per bottle the salts are unchanged, but a slight premium is asked on the scale prices.

MILK-STUGAR.—There appears to be a fair quantity of New Zealand on the market, which is offering at from 2s. 2d. to 2s. 3d. per lb., but competition will be met. Dutch powder is 220s. to 225s. per cwt., as to quantity.

MINT OIL.—Japanese dementhrolised is quiet and slightly easier, with spot sellers of Kobayashi-Suzuki at 7s. 3d. per lb., and to arrive 7s. 3d. c.i.f. is quoted.

NUX VOMICA is selling at from 30s. to 32s. 6d. for Cochin and at 33s. 6d. to 34s. for Madras on the spot.

ORANGE OIL.—A Sicilian report, dated August 9, reports a fairly good demand, and as available supplies are in strong hands still higher prices have been paid.

PALALDEHYDE.—Several of the cheap parcels have been cleared off the market, and prices are firmer at from 5s. 6d. to 5s. 9d. per lb., according to quantity.

PEPPER is quiet and easier for shipment. Sales of fair black Singapore have been made at from 1s. 0 $\frac{1}{2}$ d. to 1s. 0 $\frac{3}{4}$ d. per lb. on the spot; to arrive, August-October and September-November shipment is quoted at 10 $\frac{1}{2}$ d. c.i.f. London d.w. Tellicherry on the spot has been sold at 1s. 2 $\frac{1}{2}$ d. and Aleppy at 1s. White Muntok is offered at 1s. 5d. and Singapore at 1s. 5d. on the spot; to arrive, Muntok for August-October and September-November shipment is quoted at 1s. 4 $\frac{1}{2}$ d. c.i.f. and Singapore for July-September shipment at 1s. 4 $\frac{1}{2}$ d. c.i.f. d.w. At auction 193 bags Ceylon black sold at 1s. to 1s. 1d. for greyish to good bold heavy, and 32 bags fair Tellicherry sold at 1s. 2d. for fair; 200 bags fair Lampung were bought in at 1s. per lb.

PEPPERMINT OIL.—The vagaries of the American exchange operating against buyers and sellers prevents business; to arrive, 37s. 6d. per lb. is quoted for finest American tin oil. In further efforts to unload the small remaining stocks before the new crop is on the market, American dealers have cut the price sharply to \$6.50 to \$6.65 per lb.

PHENACETIN is unchanged at from 20s. to 21s. per lb. It is still difficult to obtain permits to import.

PHENAZONE is quiet at from 27s. 6d. to 30s. per lb. for spot supplies, according to quantity and seller.

PIMENTO is quiet, with spot sellers at 5 $\frac{1}{2}$ d. per lb.

QUICKSILVER.—Leading importers again raised their price after we went to press last week by 10s. to 24s. per bottle, and dealers and agents have since asked up to 24s. 10s. There is a continuous good demand, and the market has every appearance of holding firmly under present conditions, and so long as the Far Eastern demand goes on. At the high prices production should be stimulated.

QUININE.—The usual requirements of the drug trade are being filled without difficulty, and for 1,000-oz. lots of sulphate 3s. is still the price, but there is a possibility of a slight reduction in the near future.

RESORCIN.—Spot stocks are small, with sellers quoting 18s. per lb.

RHAPONTICA.—Fine Chinese is held at 2s. and ordinary at 1s. 6d. per lb.

RHUBARB is still scarce, with 9s. to 10s. per lb. asked for Canton, as to quality. Sales of parcels afloat have been made at much less than the foregoing.

SACCHARIN has been extremely quiet for some time past. Small lots of American 550 pure powder are obtainable at 20s. per lb. in bond, and slightly less for quantity. The July Board of Trade Returns show a considerable reduction in imports, and are as follows:

| | 1917 | 1918 | 1919 |
|--------------------------|---------|-----------|---------|
| | oz. | oz. | oz. |
| July Imports | 37,355 | 454,672 | 827 |
| Jan.-July Imports | 287,623 | 1,362,201 | 267,623 |
| Home consumption (JJuly) | 45,504 | 362,057 | 38,712 |
| Do. (Jan.-July) | 272,745 | 1,178,288 | 259,676 |
| Re-exports (July) | — | — | 98,719 |
| Do. (Jan.-July) | 3,052 | 40 | 163,484 |

SAFFRON.—Spanish advices report an advance of about equal to 4s. per lb. on all qualities. Spot supplies of finest Valencia are still obtainable at 57s. 6d. while they last. New crop is not expected here until the middle of November.

SALICYLATES remain firm and unchanged, B.P. salicylic acid powder offering at 2s. 4d. to 2s. 6d. per lb., and for sodium salicylate 3s. 6d. is asked.

SENEGA is selling at from 8s. to 8s. 3d. per lb. net on spot, and near at hand is quoted at 7s. 9d. New York advices dated July 30 report that holders have further advanced their prices to \$1.40 to \$1.50 per lb.

SHELLAC has been quieter this week, but prices show a further appreciable advance. Last week the spot price of usual standard TN quality closed at 46s. per cwt., but up to 47s. has been paid since. Fine Orange now ranges from 49s. to 50s., AC cakey 37s., and GAL 35s. Futures have advanced about 5s. per cwt., the sales including October delivery at from 47s. to 47s. The sales to arrive towards the close of last week included TN June-August shipment at 44s. 6d. c.i.f. and sellers of July-August at 45s. c.i.f.

TURPENTINE has continued in active demand at higher prices, American closing at 127s. on the spot.

VANILLIN is unchanged at the quotations given last week.

WAX, VEGETABLE.—Japanese is quiet, the spot value being 9s.

WOOD OIL.—Chinese is easier at 130s. on the spot and at 121s. 6d. c.i.f. afloat.

ZINC OXIDE is steady with a fair demand, and quotations for the home product range from 68s. 10s. up to 80s. per ton, according to quality, delivered London.

Platinum Production in America.

The demand for platinum during the war increased enormously owing to its manifold applications both for electrical appliances and as a catalyst in the manufacture of sulphuric acid and nitrates from the air. Russia furnished 90 per cent. of the world's production, but instead of a production of 300,000 oz. in 1911 it supplied only 78,000 oz. in 1916. Steps were thereupon taken to work the deposits of platinum existing in America, and the district of Choco, in Columbia, supplied in 1917 no less than 50,000 oz. of this rare metal, compared with an output of 12,000 oz. in 1911.

Sudan Gum Acacia.

During June the exports of acacia-gum from Port Sudan were 4,584,000 lb., of which 96,000 lb. was for the United Kingdom. The reduction in the local output (says "The Times Trade Supplement") "is over a million pounds when compared with the figures for the same period of last year. Arrivals from the interior were short, and the output this year will be considerably below the average of the last two years owing to the early cessation of rains. Prices also have been low in comparison with those ruling until recently. With camel transport rates still high natives have not found it worth while to bring in gum from long distances, a factor which has also contributed to the reduction in the export trade." We may add that in London there is a stock of 28,442 packages, compared with 19,853 packages in July last year.

The Italian Chemical Industry.

Prior to the war, owing to German competition, Italy's chemical industry was very restricted, but during the war it received a considerable impetus. In 1917 there were 276 chemical joint-stock companies with a total capital of 462 million lire, compared with 222 and a total investment of 202 million lire in 1916. Before the war Italy's total chemical exports amounted to about 30 million kilos., of a value of 15 million lire (600,000.) annually, the principal exports being acetic, citric, oleic, tannic and tartaric acids, magnesium oxide, lead carbonate, sodium chloride, aluminium sulphate, copper sulphate, sulphuric acid, calcium carbide, and cream of tartar. The principal chemical imports consisted of 60 million kilos. of potassium and sodium nitrates, about 90 million kilos. of sulphates, 16 million kilos. of artificial manures, and 10 million kilos. of dyestuffs. The number of chemicals being manufactured in Italy is increasing, and it is anticipated that the country will soon appear in the market as an exporter, particularly as the Government is now studying various proposals for fostering this branch of industry.

British Guiana Lime-juice.

The report on the Government Lime Factory, British Guiana, for the period January 1, 1917, to March 31, 1918, shows that on the whole the factory has had a successful year, for although the prices obtained both for concentrated juice and distilled oil of limes are lower than those of 1916, the working expenses have been reduced and more limes have been dealt with. A total of 3,504 bags of limes was purchased, and the juice extracted was 27,652 gals., and another 447 gals. of raw juice was purchased. These 28,098 gals. of juice yielded 54 hogsheads of concentrate, equal to 2,975 gals., testing on an average 116 oz. of citric acid to the gallon. The oil obtained by distillation from the total quantity of juice was 1,100 lb., equal to slightly under 4 lb. per 100 gals., compared with 3 $\frac{1}{2}$ lb. during the previous season. It was observed that juice distilled when entirely fresh yielded a greater return in oil than that stored for several weeks. The yield from fresh juice on several occasions exceeded 4 $\frac{1}{2}$ lb. per 100 gals., while that from stale juice sometimes fell below 2 lb. per 100 gals. In spite of the fact

that the price of concentrated juice had fallen from 30*l.* per pipe in 1916 to 28*l.* in the present season, and the price of distilled oil had also fallen from 9*s.* per lb. to 6*s.* 3*d.*, the net profit on the factory's working was \$875, approximately 16 per cent. on the capital outlay.

Italian Monopoly in Quicksilver.

Within the past few months there has been evidence that the conditions in the quicksilver industry have been revolutionised by post-war developments in regard to the world's demand, and the situation is becoming more and more interesting. For some considerable time past a good deal of curiosity has been aroused as to the position of the Idria mines, and as had been generally suspected these important mines, which under Austro-Hungarian ownership supplied the needs of the Central Powers during the war, have now become part of Italy since the annexation of Austro-Hungarian territory. This, of course, is likely to prove a most important factor in the future destinies of the market. Italy will thus control one-half, if not more, of the total world's output. In fact, it has already been suggested that the Italian Government is considering the establishment of a monopoly in quicksilver. The production of the Idria mines is very large, although perhaps not quite so great as that of the Monte Amiata mines of Italy, which formerly were apparently controlled by German capital until the outbreak of war, but subsequently seized by the Italian Government on its entry into the conflict. Another important point bearing on the extent to which market control can be forced under the new conditions is that practically the whole of the Italian and Spanish production has drifted into the hands of the Rothschild firm in this country. In the circumstances it is quite obvious that competition outside of Italy and Spain through the interests mentioned will be practically confined to the United States, where the price is now chiefly guided by the London market. This is certainly interesting, and it may be assumed that the comparatively much lower price that ruled for quicksilver before the war is not likely to be again seen for a long time unless fundamental conditions are entirely changed through the discovery of important new sources of production later, of which there is, however, not the least prospect at present. The position would thus not admit of any material cheapening of the price, especially if the world's demand continues as active as it has been for months past. The American exports during the first five months of this year were 329,276 lb., of which the larger portion went doubtless to the Far East. Some people in America believe that the extended Far Eastern demand is only temporary. Our total imports for July were heavy at 5,093 bottles, making an aggregate of 22,607 bottles for the seven months, which compares with only 9,711 bottles for the corresponding period of last year.

Myrobalan Extract.

Prior to the war myrobalans were imported into the United Kingdom in the form of whole nuts, and Madras No. 1 were then considered the best in the market. Latterly, however, crushed myrobalans (i.e. the nuts with the kernels removed) and myrobalan extract in liquid form were imported at practically the same cost—i.e. about 27*l.* a ton c.i.f. the United Kingdom. But the crushed myrobalans take up more space than the properly prepared extract, and the shipping-dues on the former are higher; and the tanner who purchases the former has also to bear the cost of making the extract. Consequently, it would appear that the future prospects of the properly prepared extract are bright.

There is quite a good demand in the United Kingdom for myrobalan extract provided it is supplied after concentration into the solid state—either in blocks or as a powder. The preference is for extracts made up thus in solid form, the principle being that the cost of freight and the cost of the casks would make the liquid extract too dear; and there is also the risk of leakage on a long voyage as well as of fermentation. Most tanners in the United Kingdom possess means of liquefying the extract, and this, coupled with the scarcity of shipping space, makes them unwilling to pay freight on water brought from India, America, and France, which is practically what happens when the extract is imported in liquid form. The advantages of shipping only in the solid state can, therefore, be easily seen, and it is practically the only condition in which myrobalan extract is imported into the United Kingdom at present. The solid extract is usually packed in bags, cases, or kegs of about 1 cwt. each, and contains between 50 to 60 per cent. of tan.

Arrivals of Chemicals, Drugs, etc.

The following arrivals have taken place at the ports named:

| | | |
|-------------------------------------|--|--|
| <i>London</i> (August 11 to 18). | Litopone (N.Y.), 1,035 brls. Oils, essential : not de- scribed, (Fr.) 22 cks. (Sic.) 2 x $\frac{1}{2}$ cs. 71 cs. 116 x $\frac{1}{2}$ cs. 1 x $\frac{1}{2}$ cs. (It.) 10 cs., (Amst.) 11 cs.; peppermint (Fr.), 105 cs.; sau- dal-wood (B'bay), 120 cs.; turpentine, (Swe.) 11 brls., (U.S.) 1,197 brls. | Lithopone (U.S.), 374 brls. Magnesite, (Tky.) 1,467 brs., 8,927 tons, (Madr.) 3,548 bgs. Kaolin (U.S.), 200 bgs. Lead, white (U.S.), 145 kgs. 360 brls. Mineral white (Fr.), 200 bgs. |
| | | Oils, fixed : coconut, (Holl.) 3,870 brls., (U.S.) 600 brls.; cottonseed, (U.S.) 500 brls., (R'dam) 580 brls.; ground- nut (R'dam), 365 cks.; hardened (R'dam), 372 brls.; olive (Fr.), 103 cks. 67 cs.; soya bean (U.S.), 3,445 brls.; sperm (Natal), 71 drms. |
| | | Perfumery (Fr.), 21 cs. Seeds : annatto (W.I.), 102 bgs.; apricot kernel (Ch.), 130 bgs. 133 cs.; cara- way, (Amst.) 100 bgs., (R'dam) 25 bgs.; cashew nuts (B'bay), 41 cs.; copra (W.I.), 16 bgs.; cotton, (Ind.) 19,269 bgs., (S. Amer.) 6,223 bgs.; ground-nuts, (Ch.) 500 bgs. 145 pkgs.; (E. Afr.), 571 bgs.; Dextrin (U.S.), 3,672 bgs. |
| | | Drugs, crude : barks and roots (N.Y.), 252 pkgs. Balsam Peru (N.Y.), 5 cs. Campbor (B'bay), 100 cs. Chamomiles (Ghent.), 32 bls. Kola (W.I.), 32 bgs. Liquorice (It.), 73 bls. Menthol (Fr.), 10 cs. Quinceated (Cape), 19 bgs. Senna (Alex.), 12 bls. Turmeric (B'bay), 645 bgs. |
| | | Dyes, medicines, etc.: not described, 384 cts. (U.S.), 290 cs. 169 pkgs.; bovine (N.Y.), 125 cs.; camphorice (Mont.), 50 cs.; emulsion (U.S.), 1,740 bxs.; plasters (N.Y.), 41 cts.; vaseline (N.Y.), 1,835 cs. |
| | | Dyes, dyeing and tan- ning materials, etc.: aniline (Ostend), 332 pkgs.; bark (wattle) (Natal), 4,123 bgs. 5,983 bls.; extract (chestnut) (Fr.), 160 cks.; tanning (Syd- ney) 100 cs., (It.) 2,212 brls.; sumac (It.), 200 bgs. |
| | | Egg products : albumen (Ch.), 388 cs. 157 pkgs.; yolk (Ch.), 555 cks. 60 pkgs. 70 brls. |
| | | Fusel oil (Fr.), 51 cks. Gelatine, (R'dam) 60 bgs. 8 bls., (Amst.) 14 bgs. |
| | | Gums, resins, etc. : not described (B'bay), 142 bgs.; karaya (B'bay), 320 bgs.; nyrrb (B'bay), 22 bgs.; olibanum (B'bay), 43 cs.; re- sin (Fr.), 360 cks. |
| | | Honey (Jam.), 1,204 cks. 126 cs. 115 x $\frac{1}{2}$ cs. |
| | | Lime-juice (W.I.), 33 puns. |
| | | (August 11 to 16). |
| | | Alcohol, wood (U.S.), 50 drms |
| | | Almonds, (It.) 350 pkgs., (Sp.) 400 cs. 410 pkgs. |
| | | Bismuth ore, (Ch.) 167 bgs., (Chile) 220 bgs. |
| | | Castor (Vera Cruz), 4 drms.; coconut (U.S.), 2,530 brls. Cocaine (S'pore), 3,861 brls.; cod (St. John's N.F.), 581 cks.; cotton, (N.Y.) 1,398 brls., (B'ril) 55 brls., (New York) 1,000 pkgs.; palm (W. At.) 12,994 cks. 311 puns. 58 butts, (N.Y.) 3,849 brls.; seal, (St. John's, N.E.), 167 cks.; soya (N.Y.), 1,000 brls.; teased (Ch.), 1,500 cs. |
| | | Otto of rose (Cstplc.), 1 cs. |
| | | Perfumery (Fr.), 17 cs. |
| | | Quicksilver (Vera Cruz), 53 flasks |
| | | Seeds : beniseed (W. Af.), 11,969 bgs.; canary and lin (Tky.), 98 bgs.; canary (Tky.), 100 bgs.; caraway (R'dam), 250 bgs. 115 pkgs., (Amst.) 100 bgs.; castor (W. Af.), 121 bgs.; copra, (W. Af.) 1,231 bgs., (W. I.) 533 pkgs.; (S.S.), 8,365 bgs.; ground- nuts, (W. Af.) 3,734 bgs. 6,169 tons, (Madr.) 2,102 bgs., (Sp.) 500 bgs., (Shai) 210 bgs.; illipe (S'pore), 5,697 bgs.; lin, (R. Plate) 8,547 bgs., (Cstplc.) 354 bgs., (Sp.) 4,703 bgs., (P.I.) 51,981 bgs.; palm kernels (W. Af.) 179,933 bgs. 2,420 tons |
| | | Spices : cloves (B'bay), 524 bgs.; ginger, (B'bay) 1,039 bgs., (W.I.) 701 bgs. 804 bgs.; mace (N.Y.), 49 cs.; pepper, (S'pore), 2,520 bgs., (Fr.) 1,937 bgs., (New York) 760 bgs.; pimento, (Jam.) 1,200 bgs., (Fr.) 350 bgs. |
| | | Starches, etc. : farina (Holl.), 320 bgs., (starch) (U.S.), 9,842 bgs. |
| | | Stearin, (R'dam) 136 bgs., (Natal) 350 bgs. Talc (Fr.), 350 bgs. |
| | | Tallow (N.Z.), 1,422 cks., (Ch.) 1,420 cs. |
| | | Wax, not described (U.S.), 275 bgs. 3,628 brls 510 cs. |
| | | Wax, bees', (Durban) 4 cs., (Ch.) 126 cs., (Jam.) 29 pkgs., (E. Af.) 380 bgs. 224 pkgs. |
| | | Wax, paraffin (U.S.), 1,957 bgs. 1,930 brls. |
| | | Liverpool |
| | | (August 2 to 9). |
| | | Egg products : albumen (Shai), 202 cs.; yolk (Shai), 935 cks. |
| | | Glucose (N.Y.), 3,000 cts. 1,225 brls. |
| | | Gums, resins, etc., not described (Tky.), 28 bgs.; copal (S'pore), 25 cs.; lac: shell (Cal.), 200 bgs. 873 cts.; stick (S'pore), 59 pkgs.; resin, (U.S.) 5,246 brls., (Fr.) 925 pkgs. |
| | | Honey (Vera Cruz), 39 brls. |
| | | Isinglass (B'zil), 19 bgs. |
| | | Lime-juice (W.I.), 2,125 gall. |

| | |
|--|---|
| Carbon, black (N.Y.), 72 cts. | (U.S.), 3,514 bris.; tea (Ch.), 1,350 cs.; wood (Ch.), 1,000 cs. |
| Chemical products: | |
| Acetic acid (N.Y.), 153 brls. | Seeds: copra, (Jv.) 2,970 lbs., (S'pore) 2,416 bgs., (Aust.) 630 tons; cotton, (B'z il) 2,389 bgs., (W.L.) 2,300 bgs.; ground-nuts, (W. Af.) 1,850 tons, (Jv.) 235 bgs., 569 pkgs., (Ch.) 1,120 bgs., (B'bay) 591 bgs.; ilipe nuts (S'pore) 9,215 pkgs.; kurde (B'bay), 140 bgs.; lin, (Ch.) 515 pkgs.; lin, (Ch.) 213 bgs., (E.I.) 8,524 bgs.; niger (B'bay), 70 bgs. |
| Soda nitrate (Chile), 6,970 bgs. | Spices: cinnamon (B'bay), 125 bls.; pepper, (Jv.) 600 bgs., (S'pore) 10 tons; pimento (Jam.) 550 bgs. |
| Tartar (It.), 72 brls. | Starch (Jp.), 5,735 bgs. Soapstone (It.), 600 bgs. |
| Tartaric acid (It.), 20 brls. | Talc (It.), 600 bgs. |
| Dextrin (Jp.), 200 bgs. | Tallow, (Ch.) 3,955 bgs., (Aust.) 1,872 cks., (B.A.) 1,597 cs. |
| Drugs, crude: | Wax, bees, (Alex.) 16 bgs., (Chile) 91 sks. |
| Balsams (Cristobal), 10 cs. | Wax, paraffin (Rangoon), 4,800 bgs. |
| Cardamoms (E.I.), 10 pkgs. | Folkestone (August 12). |
| Cinchona, (Jv.) 715 bgs., (Cristobal) 50 bgs., (Mollendo) 438 bgs. | Perfumery (Fr.), 24 pkgs. |
| Coca-leaves (Cristobal), 22 bgs. | Goole (July 25 to Aug. 15). |
| Cuttlefish bone (Fr.), 26 cs. | Caraway seed (Amst.), 40 bgs.; chamomiles (Ghent), 10 bls.; farina, (R'dam) 250 bgs., (Amst.) 625 bgs.; oxalic acid (R'dam), 8 cs. |
| Hellebore (It.), 24 bgs. | Grimsbys (July 30 to Aug. 14). |
| Ipecacuanha (Monte Vid.), 79 bgs. | Cinnamon oil (Cey.), 3 cs.; citronella oil (Cey.), 14 drms.; copra (Cey.), 3,200 bgs.; dyes (Fr.), 82 cks.; seed oil (R'dam) 45 cks. |
| Juniper berries (It.), 38 bgs. | Jull (July 25 to Aug. 14). |
| Liquorice-juice (It.), 30 cs. | Barytes, (Can.) 636 brls., (N.Y.) 537 brls.; borax (N.Y.), 350 bgs.; cocoa butter (Swe.), 50 cs.; cyanide (Norw.), 5 bgs. 4 drms.; cod oil (Norway), 269 brls.; dextrin (Amst.), 50 bls.; digitalis (Sp.), 21 bgs.; ergot (Sp.), 1 sk. 10 bgs.; essential oil (Sic.), 36 x 1/2 cs.; gentian (Sp.), 98 sks.; 100 bgs.; glucose (N.Y.), 53 brls. 3,000 cs.; lead, white (N.Y.), 55 cks. 63 brls.; linseed oil (Antw.), 58 brls.; liquorice (It.), 20 cs.; lithopone (R'dam), 164 cks., (N.Y.) 460 brls.; olive oil, (It.) 450 brls., (Sp.) 1,119 brls.; orange-peel (It.), 20 brls.; oxalic acid (Swe.), 20 cks.; potass, carb. (N.Y.), 513 cks.; peppermint oil (R'dam), |
| Quillaja (Chile), 86 bds. | Newhaven (Aug. 14). |
| Sarsaparilla (Belize), 16 bls. | Drugs (Fr.), 118 pkgs. |
| Tuba-root (S'pore), 36 bgs. | Southampton (July 28 to Aug. 16). |
| Dyes, dyeing and tanning materials, etc.: aniline dyes (U.S.), 9 pkgs.; cochineal (Canar. Is.), 43 bgs.; cutch, (Jv.) 1,700 bgs., (S'pore) 1,275 cs.; damar (S'pore), 50 cs.; extract, (chestnut), (It.), 1,200 pkgs. 243 brls.; (tanning), 345 cks. 40 brls., (U.S.) 760 pkgs. (Jam.) 599 cks., (U.S.) 90 brls.; (logwood) (N.Y.), 10 brls.; gambier (S'pore), 1,695 cs.; sumac (It.), 1,100 bgs. | Carbon black (N.Y.), 131 cts.; casein (Fr.), 308 bgs.; chemicals (Fr.), 5 cks. 13 pkgs.; chilie (E. Af.), 300 bgs.; drugs (Fr.), 26 cts.; herbs (not described) (Fr.), 77 bgs.; olive oil (Fr.) 94 cks. 25 cs.; roots (not described) (Fr.), 10 bls.; rosewood oil (Fr.), 5 cts.; tallow (Aust.), 996 cks.; tartar (Fr.), 202 cks.; wax (not described) (Fr.), 28 cs. 12 bgs. |
| Egg products: albumen (Ch.), 1,012 pkgs.; yolk (Ch.), 1,486 pkgs. | Northwich (July 28 to Aug. 16). |
| Glucose (U.S.), 60 brls. | Mineral white (It.), 206 pkgs. |
| Gums, resins, etc.: copal, (Jv.) 300 bgs., (S'pore) 100 cs.; damar (Jv.), 300 cs.; resin, (U.S.) 2,964 brls., (Sp.) 525 brls. | Oils, essential: not described (Jv.), 6 pkgs.; citronella (Jv.), 10 drms.; peppermint (Swe.), 7 cs.; ylang-ylang (Jv.), 3 drms. |
| Oils, fixed: coconut (S'pore), 6,440 brls.; shark (pale) (Jp.), 1,000 cs.; soya bean | New York CABLEGRAM (August 21).—Business is fair; the following drugs have been advanced: Mandrake is 18½c., jalap 70c., senega \$1.60, serpentaria 70c., and Wahoo bark or root 55c. per lb. |

CHEMICALS, drugs, dyes, and medicines were exported from the United States during May 1919 to the value of \$9,732,617, compared with \$13,086,270 in May 1918. During the eleven-month period ended with May 1919 exports were valued at \$135,785,933, compared with \$165,365,629 during the same period last year, and \$168,786,802 during the same period of 1917.



Local Associations Executive Election.

SIR,—Will you kindly allow me to acknowledge my thanks to all those who, at the recent election, gave me their vote and thus enabled me to become a member of the L.A.E.C.?

Yours faithfully,

CHARLES DAVIS.

SIR,—I wish to thank those who voted for me in the election for the L.A.E. very sincerely for the expression of confidence. I am naturally very much gratified at the result, and I will do everything in my power to justify the confidence placed in me.

Faithfully yours,

FREDERICK CHERRY.

SIR,—Will you please through the medium of your columns be good enough to permit me to thank all those electors of the No. 6 L.A.E. Constituency who voted for me at the recent election, and I would like to assure them that I will do all in my power to merit the confidence that they have expressed in supporting my candidature? Also I would like to thank those very kind friends who have personally written me letters of congratulation.

Yours very faithfully,

ARTHUR E. YOUNG.

SIR,—Permit me, through your columns, to thank those members who registered their votes in my favour at the above recent election. Whilst regretting a result which leaves the whole of the Eastern Counties, from Southend to north of Peterborough, without a direct representative on this important Committee, I am certain that the interests of chemists will be quite safe in the hands of those elected, and I tender my hearty congratulations to Messrs. A. E. Young and J. A. Pegg on their success.

Yours faithfully,

CHARLES SMALLEY.

SIR,—I purposely refrained from asking any panel chemist for his vote in the election now past, believing the time and work I had given in connection with the "mile limit" and other injustices connected with National Health Insurance practice were sufficiently recognised throughout the country without any comment from myself. I should esteem it a favour if you would now allow me to thank the electorate not merely for that expression of confidence in me which my re-election has demonstrated, but for indicating so clearly to the newly constituted L.A.E., as the result of my return, that the removal of this anomaly must be insisted upon. I will make it my business in the future, as in the past, to merit a confidence so much appreciated.

Yours faithfully,

CLEMENT W. RIDYARD.

SIR,—Kindly allow me to take this, the earliest, opportunity, through your generous columns, to tender my sincere thanks to my fellow-pharmacists in the North-Western Federation Area for the lavish confidence they have imposed in me (by the largest vote in the country), thus electing me one of their representatives on the L.A.E. Committee. Five years ago I was one of those elected by the first Conference. It is very gratifying to know that I still retain the confidence of those whose good will I treasure more than words can express. I trust that in the strenuous times before us we may be able to obtain for pharmacy its true position in the nation's services, and more satisfactory national recognition and remuneration for work done.—Yours faithfully,

J. W. DEAKIN.

SIR,—Having been successful at the recent election for the Local Associations Executive Committee in the Metropolitan Area, may I take this opportunity of expressing my most hearty thanks to all those who have supported me in any capacity to bring about this result, more especially those who put the necessary "customary mark" on the ballot-paper? To be one of the chosen representa-

tives of an important constituency such as that of the Metropolitan Area is to me a great honour, especially so as this is the first time that my name has gone forward as a candidate for election for the representation of the interests of pharmacists. My general objective is "Pharmacy for the Pharmacist." My principle is "Everything straight and above board." I will never be a party to "Hole-and-corner methods." Secrecy I abhor. "The proof of the pudding is in the eating thereof." I am a starter in the "Great Race" for progress and reconstruction. You have elected me, I will do my best to carry out your wishes. Judge on results.

HUBERT B. FIGG, M.P.S.

32 Antill Road, Bow, E. 3.

The Cost of Dispensing.

SIR,—May I reply to the remarks of "Xrayser II." and Mr. McBien in your issues of August 2 and 9 in connection with the paper on "Cost of Dispensing Medicines" read at the British Pharmaceutical Conference? I am very glad to note that "Xrayser II." is more favourably disposed to the suggestions outlined at the Conference than to the earlier ones I made in April. Admittedly it is a complicated business to arrive at the actual cost of dispensing; at the same time, it cannot be impossible. With regard to calculations of cost of ingredients, anyone will find that, providing they keep in touch with the main alterations in costs, it becomes rarely necessary to refer to price lists when actually pricing prescriptions. With practice the calculations can be made quickly without waste of time. The suggestion that the number of doses ordered is ignored is incorrect, because the more numerous the doses the greater the cost of the ingredients. The charge under this system does vary according to the number of doses prescribed and the commercial value of the medicaments ordered. Upon the point of uniformity of charges, may I point out that of the four considerations involved :

- (1) Cost of ingredients,
- (2) Cost of dispensee's time,
- (3) Establishment charges,
- (4) Container,

only the establishment charges should be liable to considerable variation? I attempted to show in my paper that, even if one took extreme examples, where the establishment charges were in the one case double those of the other, the difference in the total cost was small, as factors 1, 2, and 4 are similar in all cases. Mr. McBien emphasises the fact that the usual charges for compounding pills are a "dead loss," and states that lay minds cannot grasp why such charges should exceed those made for machine-made pills of stock formulas. That is not my experience, and I would suggest that the owner of the lay mind who could not understand the difference after courteous explanation should be given time to think it out. In any case such individuals should not be allowed to warrant the continuation of an anomaly for all time. I trust that Mr. McBien's hope that local associations will consider this question in the coming session will be realised. A system which is fair all round for all classes of dispensing, as well as for pharmacist and patient, would be of great benefit to pharmacy. At present I venture to suggest that collectively pharmacists possess no reasoned system upon which to base their charges. The National Health Insurance Tariff originated on too low a standard, a great deal of the work in connection with it being carried out at a loss after ordinary hours because panel doctors will not see their patients at reasonable times. I do not suggest that the paper read at the Conference solves all our difficulties, although no criticism which I have seen appears to me to show that such a system is not on fair and workable lines. If any system is elaborated by the pharmaceutical organisations, it is to be hoped it will not be adopted without very careful consideration and the help of financial experts. We should then be certain of obtaining a rational system rather than a puzzle.—Yours truly,

CHARLES T. ALLEN.

20 High Road, Kilburn, N.W. 6.

The Unjust By-law.

SIR,—The by-law has now been confirmed, and the pros and cons are no longer burning questions. Sir William Glyn-Jones and Messrs. Currie and White have gained their victory, but it must taste as ashes in their mouths. Personally, I am more than contented to be in the ranks of the defeated. The rank and file of pharmacists who voted for or against the by-law did so from a sense of conviction, and there is therefore no reason for any residue of bitterness between them. Of the lessons to be learned from the unhappy episode, Mr. Wolff spoke on the first and most important.

(1) Officials must no longer be allowed to indulge in their propensities for secret negotiations. They must no longer have power to pledge the Society to any policy without sanction of the members.

(2) The powers of the Secretary must be defined and curtailed. Sir William Glyn-Jones must content himself with the same measure of power as his predecessors.

(3) Stop-gap Presidents must never again be elected. The Presidential chair confers honour upon the man strong enough to fill it worthily, whereas the weak man brings contempt upon the high position he holds.

(4) Political trickery must never again disgrace our policy. If this be accepted as justifiable tactics an unscrupulous minority at any time might involve the Society in a policy which was abhorrent to the majority of the members.

(5) The packing of the Council with "dummy" nonentities who invariably vote in support of the officials must cease. The limelight has now effectually revealed their deficiencies to the eyes of the electors, and the result will doubtless be apparent at ensuing elections.

(6) Live men with experience of modern requirements and of everyday pharmacy must be elected to replace the nonentities.

(7) Country pharmacists must be more fully represented.

(8) The high-class dispensing, pseudo-scientific pharmacists must be satisfied with a representation approximating to their small number.

(9) Local associations must take a more active part in matters involving questions of policy.

(10) Our status and emoluments under the Ministry of Health must not be left to the secret negotiators of the by-law fiasco.

I should like to point out that even the shrewd and extremely able Sir William Glyn-Jones has been proved wrong on two occasions on which he has given a legal opinion lately.

(a) In stating that voting at the first Memorial Hall meeting would be illegal.

(b) In stating that the Society could undertake all the functions of the Scottish Federation.

We ought to employ a whole-time Secretary, and pay him a salary commensurate with his qualifications and responsibilities.

Yours truly,
J. ROSS HENDERSON.

SIR,—I should be glad if your readers would give an opinion as to whether they consider persons with a similar experience to mine might reasonably be said to possess sufficient skill and knowledge for admission to the Register under Section 4 (b) of the Poisons and Pharmacy Act 1908. The regulations recently approved disqualify me because I have not served seven years in an institution. I served an apprenticeship of four years to a pharmacist, for which my parents had to pay a premium of 20*l.*, and I hold indentures to this effect. Like many other lads I did not pay sufficient attention to my studies, consequently failed in Latin in the last of the old Pharmaceutical Preliminary examinations. Being faced with six subjects, I left it alone and went in for the "Hall," which I passed in 1904. I have been constantly engaged in the retail trade until during the last four and a-half years when I have been chief dispenser at a large military hospital, and was recently "mentioned" for valuable services rendered. I have done much x-ray work, and hold certificates in bacteriology and physiology.

Yours faithfully,
REASON. (254/22.)

Diluting the Qualification.

SIR.—A number of letters have appeared with reference to the dilution of our qualification, but one of the worst cases imaginable came to my notice in the course of the week. An illiterate young man came into my pharmacy, and in the course of conversation said that he was "going in for" a chemist. A very laudable decision thought I, so asking about his knowledge and apprenticeship I was astounded when he answered that he was exempt from the Preliminary examination and was about to attach himself to a chemist for twelve months' apprenticeship and from there was going to a college for his Minor. This young man has been in the Army for a few months, before that he was, I think, a bricklayer's labourer. He knows no foreign language, no algebra, no mathematics—not that these things are all-important, yet they are all part and parcel of good sound general knowledge. My assistant has been in the Army, but he passed his Preliminary and served his proper apprenticeship. When he heard the conversation he used a well-known Army phrase, "Well! if that isn't the limit." He threatens now to leave me and go as a bricklayer's labourer.

Yours truly,

SHELLAC. (254/4.)

SIR.—As the apothecaries' assistants are to be admitted without examination, may I, as an unqualified assistant (who has also been a manager), give a few reasons why qualification is no good to them or anyone else? In the first place, the examination is of little practical value in business, especially where a man is paid by results. Secondly, for the married unqualified assistant the fees for training and examination are a serious drawback, as with very little more capital a man may start a drug-store of his own and make a real living without having practically to double his capital. Thirdly, the public do not know the difference between a drug-store and a pharmacy. Therefore the unqualified assistant of proved business ability would be well advised to start on his own. True he cannot dispense or sell poisons, but with a little judicious advertising and a little optical experience he can make as much as his qualified neighbour, and after all that is what the examination really stands for.

Yours respectfully,

UNQUALIFIED. (18/8.)

SIR.—I am glad to note the remark made by Chas. Hamus (*C. & D.*, August 16, p. 95). Have not the men who have honestly tried to pass and failed as good or better claim to be placed on the Register of Chemists and Druggists without further examination? Judging from a remark he makes, he is one of those individuals who does not know what nerves are, and has no sympathy for the unfortunate who does. If he and other fellow-chemists were dependent only on the income derived from the amount of poison sold in any pharmacy, then they would have to write "Closed" across their windows. I contend that a man who has passed the practical portion of the Minor and holds certificates of proficiency in all subjects in the Minor syllabus, has a greater claim to be included in the list of pharmacists without further examination than the man who has only passed the apothecaries' assistants' examination.

Yours respectfully,

ONE OF THE CRAFT. (254/16.)

The Pharmaceutical Examinations.

SIR.—I quite agree with "A Pharmaceutical Examiner's Observations" (*C. & D.*, August 16, p. 72) that an examiner who fails to put a candidate more or less at ease should write himself down a failure, but examiners, even pharmaceutical ones, are but human, and it is only natural that those who do not possess the requisite qualities should classify the candidate as a failure rather than see and admit their own defects, which, I am afraid, do not always exist in the imaginations of students and teachers in pharmacy schools. In my own case, I qualified at the second attempt, after having been rejected on the aggregate at my first entry, and, rightly or wrongly, I have always attributed my first failure largely to the vagaries of an examiner. I was duly notified to appear in the morning of the second day for the oral part, and,

on answering my name, was told off to pharmacy, where I sat at an empty table for some twenty minutes, which seemed to me like as many hours, before the examiner appeared. When he did arrive he had his morning correspondence in his hand, which he proceeded to open and read while questioning me at the same time. Even to this day the sight of anyone cutting open envelopes takes me back to that *mauvais quart d'heure*. Needless to say, I did badly, and my confidence was destroyed for the rest of the morning, so that I was rejected for general weakness. It would have been useless to draw attention to the case, as my complaint would, of course, have been attributed to the bitterness of disappointed candidate. The division of the Minor is certainly all for the good of prospective candidates, and also for the future of pharmacy, if the examinations themselves are kept at a high standard. But it is not quite clear to me whether the three years' practical experience in a pharmacy now required is superseded or not. On the face of it, as I read the new regulations, the student can enter for Part 1 after having attended the requisite number of lectures and registered as a student without any shop training at all, and this leaves two years as the minimum requirement for this most important part. If this is so, it is not sufficient to gain adequate experience, as most men find it advisable to take positions as junior assistants in different places after their apprenticeship in order to gain a more varied knowledge of dispensing before commencing their studies for the Minor. One man who worked next to me in the dispensary at the examination, having some cachets to make, put half on one side of the machine and the other half on the opposite side, leaving the centre portion empty, and was struggling to make them meet. He told me afterwards that he had only worked in the one pharmacy where he was apprenticed, and had never seen a machine of that pattern, cachets rarely being prescribed in the neighbourhood. Then, again, "A Pharmaceutical Examiner" says that teachers and students waste time over things that are not in the syllabus; well, most teachers take note of the questions asked at examinations and file them for reference. I myself was asked to name and explain the B.P. tests for certain drugs and chemicals, and also to make a list of B.P. tinctures, tabulated under the percentage of alcohol used. If these questions come under the syllabus, then candidates would be wisest to learn the B.P. off from beginning to end, but those who are frightened of such a Herculean task will probably find, when the present alterations and repairs are completed, a nice convenient back door provided for candidates too nervous to ascend the front steps.

Yours faithfully,

SECOND ATTEMPT. (253/91.)

Veterinary Risks.

SIR.—I have been reading the claims of Mr. T. England in the Coloured Supplement of August 2, in which he claims to have been responsible for the initiation of the Veterinary Clause and the "all-in" policy of the Chemist Defence Association. I would respectfully remind Mr. England that the Peterborough Chemists' Association were agitating for "Veterinary Risks" two years ago, before Mr. England or the Essex Association even thought about it. I, as the Secretary of the Peterborough Association, have dictated over fifty letters in connection with this additional insurance, and we have had many special meetings to deal with this matter alone. I think Mr. Johnston will agree with me when I say that the Peterborough Association has done more towards getting veterinary insurance than any other Association in the country.

Yours faithfully,
Peterborough. CHAS. HAMSON, Hon. Secretary.

Luton Apprenticeship Conditions.

SIR.—With reference to the Luton terms of apprenticeship for a number of trades, including "chemists" (*C. & D.*, August 16, p. 66), I should like to state that the Bedfordshire Pharmaceutical Association has not been consulted in this matter, and that the local Association would probably not agree to the terms as published.

Yours faithfully,
W. WHITE.

Luton.

Miscellaneous Inquiries.

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

J. G. C. (223/11).—COLLAR-POLISHING BLOCKS.—These are either paraffin wax (cast into moulds or cut into pieces of from 1 to 2 oz.), or a mixture of equal parts of saponified and distilled stearin, with 5 per cent. of East Indian white wax.

Eser (240/24).—WEED-KILLER FOR GARDEN PATHS.—The chemicals employed for killing weeds are salt, hydrochloric acid, copper sulphate, paraffin, potassium sulphide, carbolic acid, arsenic, sodium carbonate, and sodium arsenite. It has been found at the Woburn Experimental Station that a 5-per-cent. solution of carbolic acid will kill "everything green." In the case you mention we think you should try carbolic solution.

Zeta (241/23).—(1) TOMATO CHUTNEY.—

| | | | |
|---------------------------|-----|-----|---------|
| Green tomatoes | ... | ... | 4 lb. |
| Demerara sugar | ... | ... | 1½ lb. |
| Sultanas | ... | ... | 1 lb. |
| Mustard-seed | ... | ... | 1 oz. |
| Garlic (pounded) | ... | ... | ½ oz. |
| Cayenne | ... | ... | ½ oz. |
| Ginger (ground) | ... | ... | 1 oz. |
| Pickling vinegar (No. 24) | ... | ... | 2 pints |

Put the tomatoes, sugar, and vinegar into an enamelled pan and boil to a pulp, then add the other ingredients and boil four minutes longer.

(2) TOMATO KETCHUP.—

| | | | |
|---------------|-----|-----|-------|
| Ripe tomatoes | ... | ... | 4 lb. |
| Salt | ... | ... | 4 oz. |

Allow to stand overnight, then boil till tender, and strain through a colander. To the strained liquor add

| | | | |
|------------------------|-----|-----|--------|
| Shallots (sliced) | ... | ... | 3 |
| Ginger (bruised) | ... | ... | 1 oz. |
| Pimento (bruised) | ... | ... | 1½ oz. |
| Black pepper (bruised) | ... | ... | ½ oz. |
| White wine vinegar | ... | ... | 10 oz. |
| Chillie vinegar | ... | ... | 20 oz. |

Boil for an hour under cover and strain.

G. P. (222/63).—The following are the recipes you ask for:

Balsam of Aniseed.

| | | |
|-----------------------|-----|--------|
| Ext. glycyrrh.... | ... | 5vij. |
| Sem. lini | ... | 5vij. |
| Pulv. tragac. | ... | 5j. |
| Spirit (99 per cent.) | ... | 5iss. |
| Chloroformi | ... | 5ij. |
| Ol. anisi | ... | 5j. |
| Oxy. scillæ | ... | 5xx. |
| Inf. seneg. conc. | ... | 5vij. |
| Tinct. capsici | ... | 5iss. |
| Acet. ipecac. | ... | 5vij. |
| Aq. dest. ad | ... | 5lxxx. |
| M.S.A. | | |

Bronchial Cough-mixture.

| | | |
|--------------------------|-----|--------|
| Ammon. carb. | gr. | xlvij. |
| Inf. seneg. cone | ... | 5vj. |
| Sp. chlorof. | ... | 5iss. |
| Tinct. scillæ | ... | 5iss. |
| Aq. dest. ad | ... | 5vj. |
| Dose: One tablespoonful. | | |
| | | |

Skin and Blood Purifier.

| | | |
|-------------------|-----|-------|
| Potass. iodid. | gr. | xx. |
| Sodii sulph. | gr. | 5ss. |
| Inf. gent. co. | ... | 5iss. |
| Succ. tarax. | ... | 5j.v. |
| Ol. sassafras | ... | 5iv. |
| Liq. potassæ | ... | 5j. |
| Sp. chlorof. | ... | 5iss. |
| Dec. sarsæ co. ad | ... | 5vij. |

G. R. H. (236/52).—Eusol keeps for about three weeks. We have not yet found a simple and efficient way of preserving the solution longer.

A. N. S. (246/19).—PRESERVING PEAS.—The following is the method employed by manufacturers for bottling or canning peas: The peas are shelled, graded, and picked over. The first two operations are done by machinery, and for picking over the peas are allowed to fall on tables, where workers take out any peas that are discoloured. The next step is that known as "blanching," and consists in cooking the peas in weak salt solution until they soften (this takes from five to ten minutes), and then quickly cooling with water. The peas are then placed in bottles or cans, which are filled up with brine, exhausted of air, and sealed up. The final operation is that of "processing," which is a sterilization method, the jars or bottles being heated to 236° to 240° F. for fifteen to thirty minutes, according to the size of the peas and size of containers. The brine used is of a strength of 3 per cent., or a sweet brine, containing in addition 2 per cent. of sugar. Some makers flavour this brine with onion, and tint with lettuce-leaves. A trace of copper sulphate was formerly added to the brine for the purpose of fixing the colour of the peas, but this is not now employed.

B. & F. (237/46).—Works such as Squire's "Companion to the Pharmacopœia" and Martindale's "Extra Pharmacopœia" enumerate the medicinal uses of all the drugs and chemicals of the British Pharmacopœia. In regard to the technical uses works such as Thorpe's "Dictionary of Applied Chemistry" or Bloxam's "Chemistry" need to be consulted.

F. M. & Co. (7/27).—HEADING FOR AERATED WATERS.—

Liquid.

| | | | |
|---------------------|-----|-----|-----------|
| White saponin | ... | ... | ½ oz. |
| Powdered gum arabic | ... | ... | ½ oz. |
| Glycerin | ... | ... | 4 oz. |
| Salicylic acid | ... | ... | 50 grains |
| Water to make | ... | ... | 20 oz. |

Dissolve and filter.

Solid.

| | | | |
|---------------------|-----|-----|---------|
| White saponin | ... | ... | 1½ oz. |
| Powdered gum arabic | ... | ... | 1 oz. |
| Powdered sugar | ... | ... | 13½ oz. |

Mix.

Lung Tonic (241/46).—LIQUORICE COUGH-MIXTURE.—The formula to which you refer is given under the above title in "Pharmaceutical Formulas," Vol. II., p. 222. It is as follows:

| | | | |
|---------------------|-----|-----|-----------------|
| Succi "solazzi" | ... | ... | lb. iii. 5xiv. |
| Gum acacia | ... | ... | lb. iii. 5xiv. |
| Oxy. scillæ | ... | ... | lb. vj. |
| Glycerini | ... | ... | lb. ij. |
| Ol. anisi | ... | ... | 5vj. |
| Spt. rect. | ... | ... | 5xij. |
| Ext. glycyrrh. liq. | ... | ... | 5vij. |
| Theriae. | ... | ... | 5ij. |
| Æther | ... | ... | 5vj. |
| Vin. ipecac. | ... | ... | 5xij. |
| Aquam ad | ... | ... | fl. lb. xlviij. |

M.S.A.

Dose: For adults from two teaspoonsfuls to a small tablespoonful two, three, or four times a day, as required, and a teaspoonful at intervals during the night if needed. For children under one year, ten to twenty drops; one to four years, twenty drops to a teaspoonful according to age. Do not allow children to help themselves.

G. A. S. (249/5).—Ammonium will affect a galvanised iron vessel. For mixing ammoniacal hair-shampoo an earthenware or enamelled iron vessel should be employed.

A. T. (244/63).—TABLET-MAKING.—A useful paper on this subject was contributed to the British Pharmaceutical Conference in 1913 by Mr. P. G. Chamberlain. The paper was printed in the *C. & D.*, July 26, 1913, p. 188.

F. H. R. (248/64).—NON-POISONOUS RAT POISON.—

| | | | |
|--------------------|-----|-----|-------|
| Powdered squill | ... | ... | 1 lb. |
| Powdered liquorice | ... | ... | 2 oz. |
| Powdered orris | ... | ... | 1 oz. |

Mix. For use make into a paste with a little water, but do not touch with the fingers.

A. W. P. K. (249/69).—The price of Sollmann's "Action of Drugs" referred to in the *C. & D.*, July 12, p. 55, is 6s. 6d.

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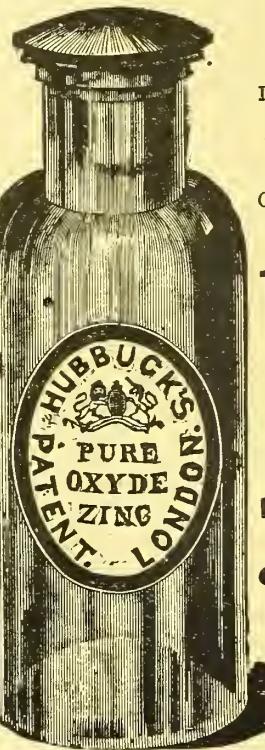
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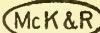
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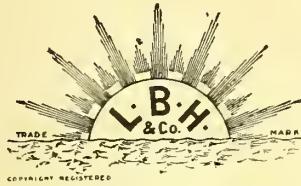
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| Emp. Spread, 12 yards x 16 ins. adhesive, 13/-; | Ext. Opi Solid, P.B., 1 lb. @ 82/-lb. | Gum Guaiaci, 1 cwt. @ lb.; 7 lbs. @ 9/- |
| Bellad., P.C., Green @ 37/6; Cer- | Ext. Opi Liq., B.P., 5 lbs. @ 8/3 lb.; 1 lb. @ 8/9 lb. | Gum Juniper, 14 lbs. @ 2/3 lb. |
| Saponis @ 14/-; Picis Co. @ 14/-; Plumbe- | Ext. Quassiae, Solid, 7 lbs. @ 10/6 lb.; 1 lb. @ 11/-lb. | Gum Thus Elect., 2½ cwt. @ 75/-cwt.; 28 lbs @ 8/-cwt. |
| @ 14/-; Resina @ 10/6; Roborans @ 14/-; | Ext. Sarsa Co. Solid, 7 lbs. @ 14/-lb.; 1 lb. @ 14/6 lb. | Gum Tragac. Elect., English Ground, 7 lbs. @ 13/-lb.; 1 lb. @ 13/6 lb. |
| Saponis, B.P., @ 14/- | | |
| Emp. Picis, P.B., 7 lbs @ 2/6 lb. | | |
| " Plumbi P.B., 7 lbs. @ 2/3 lb. | | |
| " Resina, P.B., 7 lbs. @ 2/3 lb. | | |
| " Roborans, 7 lbs. @ 2/3 lb. | | |
| Emulsiro Ol. Mortubia, 5 lbs. @ 1/10 lb. | Forri Ammon. Cit., P.B., 28 lbs. @ 4/10 lb.; 7 lbs. @ 5/-lb. | * Heading (Frothling Ess.), 5 lbs. @ 2/8 lb. |
| Eserine Sulph., in 15-grain tubes, 8/- each. | Forri Carb., 14 lbs. @ 61 lb. | Heliotropine, 1 lb. @ 27/6 lb. |
| Ess. Bergam. (Oil), 12 lbs. @ 26/6 lb.; 1 lb. @ 27/6 lb.; not guaranteed absolutely pure. | Forri Quininae Cit. P.B., 100 ozs. @ 1/7 oz.; 25 ozs. @ 1/9 oz. | Hellebore, White, Powder (Foreign Ground), 1 cwt. @ 65/-cwt. |
| Ess. Limonis (oil), original coppers, 12 lbs. @ 6/6 lb.; 6 1-lb. hots. @ 6/9 lb.; not guaranteed absolutely pure. | Forri Sulph., pure cryst. 1 cwt. @ 23/6 ; 7 lbs. @ 3½ lb. | Hexamethylene tetramine, 7 lbs. @ 7/6 lb.; 1 lb. @ 8/-lb. |
| *Ess. Moschi (not artificial), 5 lbs. @ 26/-lb.; 1 lb. @ 26/6 lb. | Fetrum Redact., 8½%, 1 lb. @ 7/6. | Honey, Jamaica, 28 lbs. @ 1/2 lb. |
| *Ess. Pear (artificial), Jargonelle, 5 lbs. @ 4/10 lb.; Bergamot, 5/3 lb. | Flo. Anth. Exot., 7 lbs. @ 2/6 lb. | Hydarygium, P.B., 10 lbs. @ 8/2 lb.; 1 lb. @ 8½ lb.; Ammon, 28 lbs. @ 9/3 lb.; c. Creta, 23 lbs. @ 3/1 lb.; Iodid. Rub. 23 lbs. @ 14/2 lb.; Oxid. Rub., 28 lbs. @ 9/3 lb.; Perchlor. Lump, 28 lbs. @ 9/-lb.; Subchlor. 28 lbs. @ 8/2 lb.; Sulph. c. Sulph., 28 lbs. @ 8/-lb.; 7-lb. quantities 1d. lb. extra, 3-lb. quantities 2d. lb. extra, 1-lb. quantities, 3d. lb. extra. |
| Ess. Pineapple, 5 lbs. @ 9/6 lb. | Fol. Buchu, oval, 7 lbs. @ 9/6 lb. | Hydrofikline, 1 lb. @ 14/6 th. |
| " Raspberry, 5 lbs. @ 7/6 lb.; 1 lb. @ 7/9 lb. | Fol. Senna Alex. parv., 23 lbs. @ 1/1 lb. | |
| " Vanilia Beans, 5 lbs. @ 11/9 lb.; 1 lb. @ 12/3 lb. | Fol. Senna Tinnev., 1 cwt. @ 7½ lb.; 7 lbs. @ 8d. lb.; English Ground, 56 lbs. @ 11d. lb.; 7 lbs. @ 1/-lb. | Ichthyol Ammon, chemical equivalent: Ammon. Ichthiosulphonate, B.P. Codex, 7 lbs. @ 5/-lb.; 1 lb. @ 5½ lb. |
| Ext. Belladonnae Liq., B.P., 5 lbs. @ 18/-lb.; 1 lb. @ 18/6 lb.; solid, 7 lbs. @ 9/3 lb. | Ext. Ergot. Liq. P.B., 5 lbs. @ 19/-lb.; 1 lb. @ 19/6 lb.; Solid, P.B., 4 lbs. @ 78/-lb.; 1 lb. @ 79/-lb. | Inf. Aurant. Conc., 1 to 7, 6 lbs. @ 3/4 lb. |
| Ext. Gent. P.B., solid, 1 cwt. @ 3/2 lb.; 7 lbs. @ 79/-lb. | Gamboge, English Ground, 1 lb. @ 9/6 lb. | Inf. Aurant. Comp. Conc., 1 to 7, 6 lbs. @ 3/4 lb. |
| *Ext. Glycyrrh. Liq. B.P. 6 lbs. @ 5/1 lb. [3/6 lb.] | Ginger, English Ground, 1 cwt. @ 95/-cwt.; 7 lbs. @ 1/-lb. | Buchu Conc., 1 to 7, 6 lbs. @ 4/9 lb. |
| Ext. Hamamelis Liq., P.B., 5 lbs. @ 7/-lb. | Gingerine, Extra, 5 lbs. @ 22/-lb.; 1 lb. @ 22/6. | Columba Conz., 1 to 7, 6 lbs. @ 1/10 lb. |
| Ext. Hyoscyami, Solid, B.P., 3 lbs. @ 12/6 lb.; 1 lb. @ 13/-lb. | Guaiacol Carb., 1 lb. @ 36/-lb. | Caryoph. Conc., 1 to 7, 6 lbs. @ 2/4 lb. |
| Ext. Ipecac. Liq., P.B., 5 lbs. @ 20/6 lb.; 1 lb. @ 21/-lb. | Guaiacol, pure, 1 lb. @ 68/-lb. | Cascarilla Conc., 1 to 7, 6 lbs. @ 2/2 lb. |
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| Ext. Nucls Vom. Liq., P.B., 5 lbs. @ 6/2 lb.; 1 lb. @ 6/7 lb.; solid, 5 lbs. @ 7/-lb.; 1 lb. @ 7/6 lb. | Gum Benzoin, Sumatra, 84 lbs. @ 2/3 lb.; 7 lbs. @ 2/5 lb. | Genitiana Co., 1 to 7, 6 lbs. @ 1/8 lb. |
| Gum Catechu Nig., English Ground, 1 cwt. @ 160/-cwt.; 14 lbs. @ 1/6 lb. | Gum Quassiae, 1 to 7, 6 lbs. @ 1/3 lb. | Rhei Conc., 1 to 7, 6 lbs. @ 3/-lb. |
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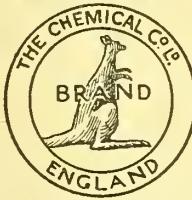
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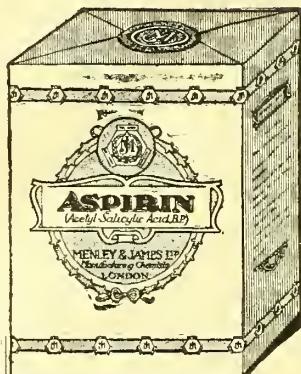
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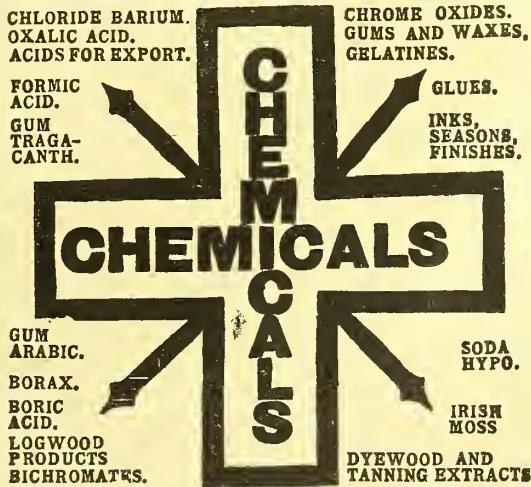
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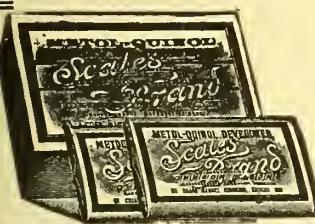
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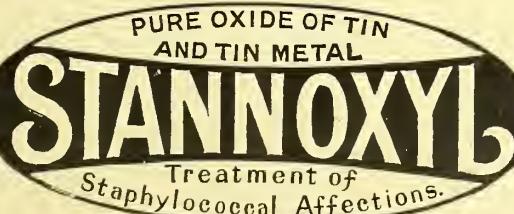
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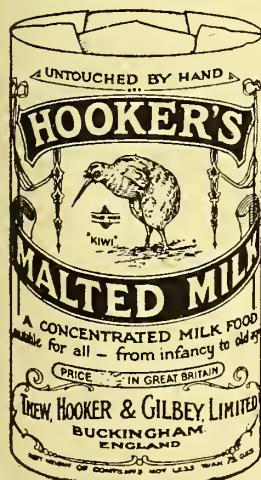
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EUSALINE is unrivalled, it quickly corrects all indiscretions in eating and drinking—sweetens the stomach, cleanses the system and purifies the blood.

AN ALL-THE-YEAR SELLER. KEEPS IN ALL CLIMATES.

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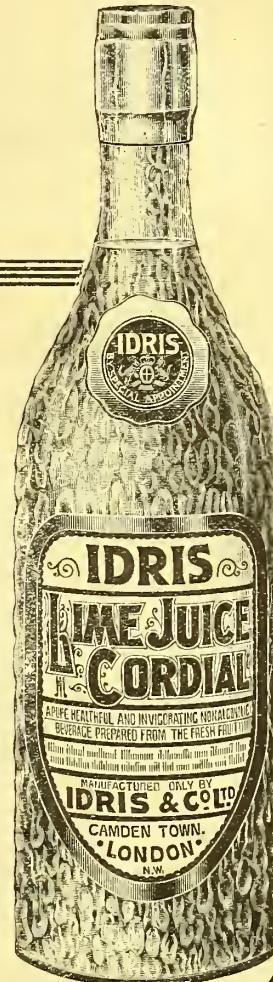
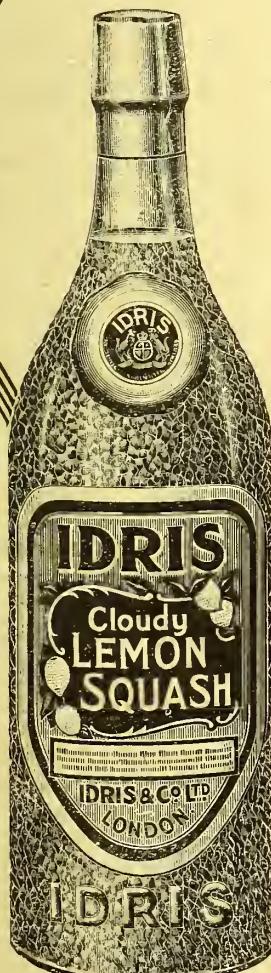
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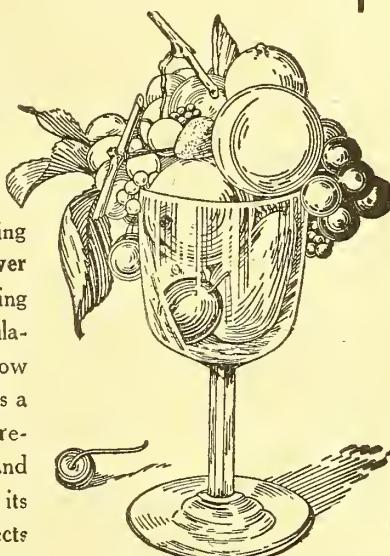
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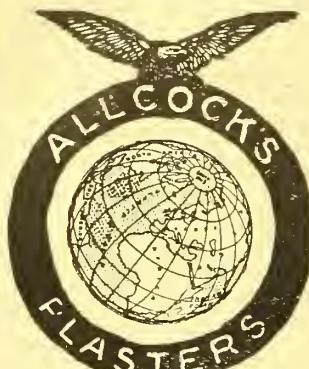
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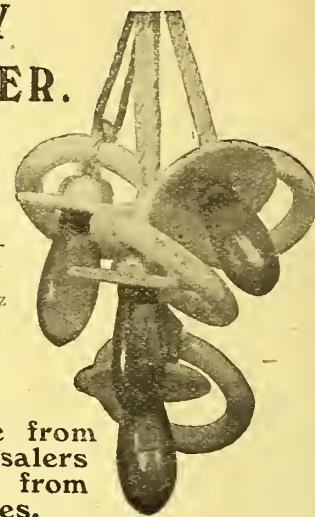
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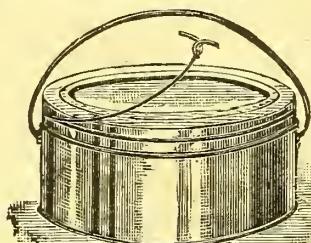
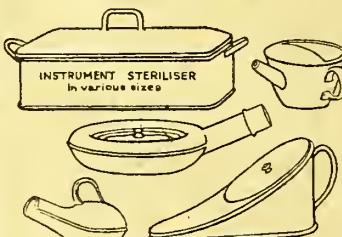
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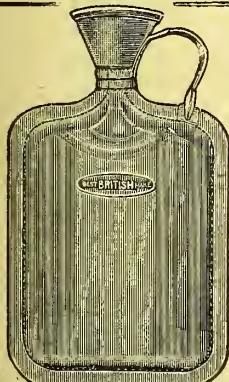
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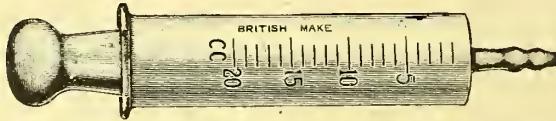
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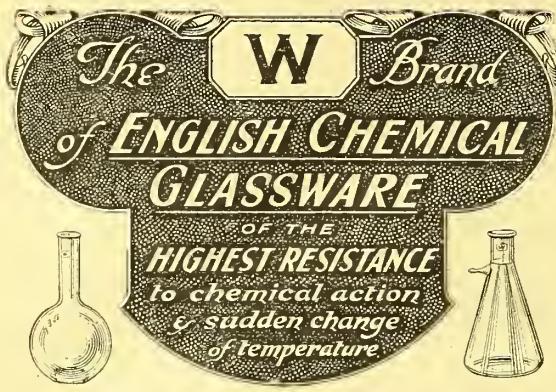
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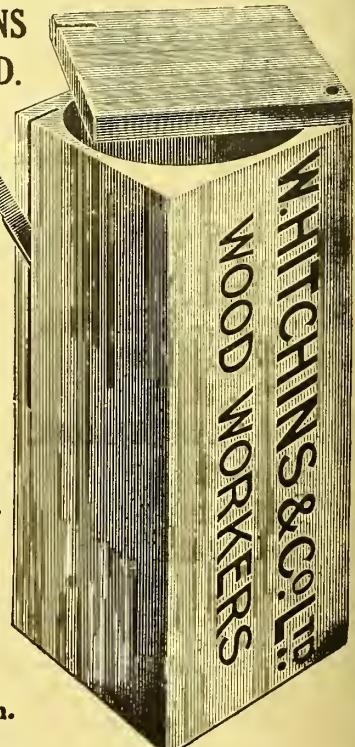
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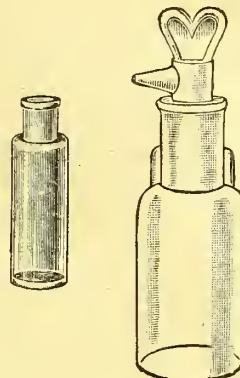


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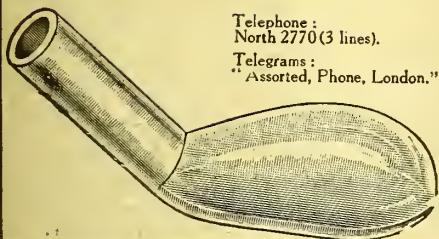


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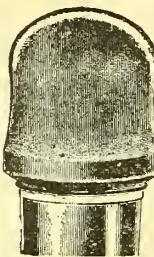
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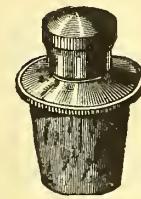
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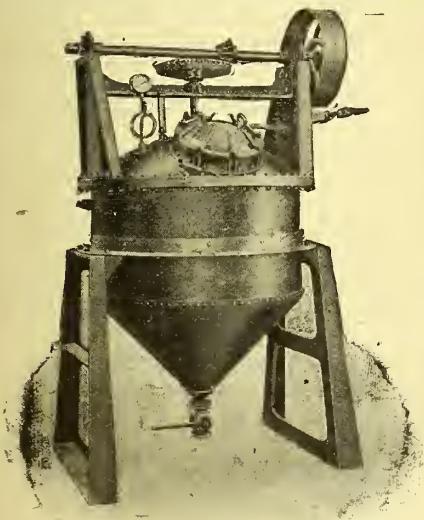
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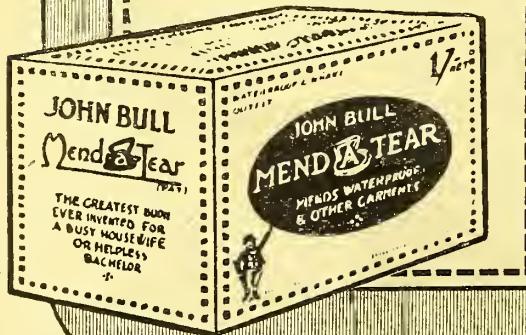
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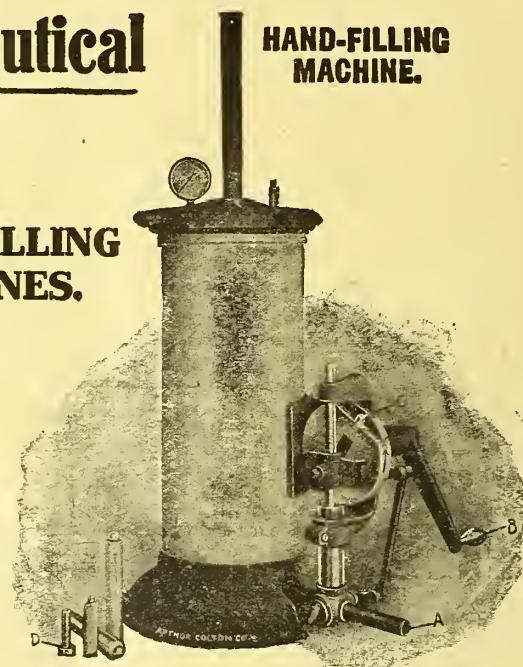
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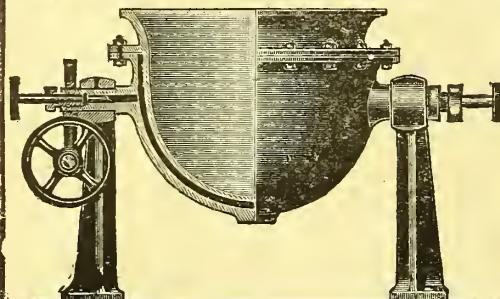
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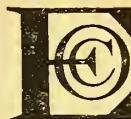
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THE BEST POTATO SPRAY

Tested and
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Food Production
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THE BEST.

PREVENTS
BLIGHT
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Do not Delay.
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Made by the producers of the famous "Maple Brand" Copper Sulfate.
THE MOND NICKEL CO. LTD., Horticultural Section,
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"RAILOX"

The best, cleanest, and handiest
NIT AND LICE DESTROYER
NO GREASE OR LIQUID
3d. & 7½d. packet

3 dozen, 6/- 1 gross, 23·6. Discount £1, 2½%, 5%,
6 dozen 12/- 13 to dozen for cash with order
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Showcards supplied. Carriage paid.

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FLY GUM

For Fly Papers and Reels.

Guaranteed to retain its stickiness
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Watts' Embrocation, or Carb Bottle.
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Of all the leading Druggists' Sundries Houses:

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Cartols
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at any time in every
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**Or 35, 36 & 37 EXCHANGE CHAMBERS,
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MAKE YOUR OLD HAT A NEW ONE.

In bottles, 1/2 each, in separate neat cartons. These Dyes are a distinct invention, dyeing the straw without an objectionable varnished appearance, and producing the effect of new goods.

SUITABLE BRUSH SUPPLIED.

NO GLOSS.
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HAT "LUTON" DYE

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London Office and Showrooms; 61 and 62 Craven House, Kingsway, W.C. 2.

GLOSSY SERIES supplied if desired.
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All these colours will dye either Wool, Silk or Cotton, or mixture of these. No separate dye required for each material. Easy and clean to use. No acids or preparation required. Make home dyeing a matter of interest and pleasure.

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For Floors, Furniture, and Woodwork generally.
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For Dyeing Tan Boots, Belts, Harness, Bags,
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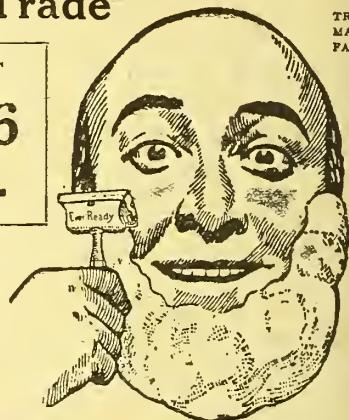
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'EVER-READY'
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WOOD BOXES AND TRAYS OF EVERY DESCRIPTION

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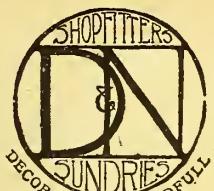
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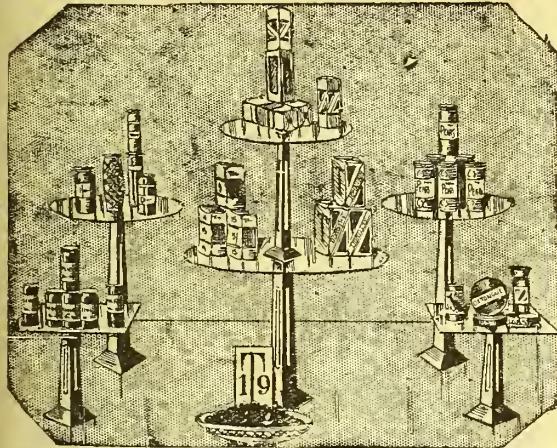
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Set 118.—Consisting of 2 18 in. OAK PEDESTALS, 3 12 in. ditto, and 1 24 in. ditto, with 1 24×18, 2 18×12, and 1 16×10 in. OVAL, and 2 16×10 in. OBLONG PLATE GLASS SHELVES and 1 WILLOW BOWL.

PRICE 84/- COMPLETE.

My WINDOW PAPERS are 4/3 per roll of 12 yards 21 in. wide. WRITE FOR SAMPLES.

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Full Set of
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to Colonies
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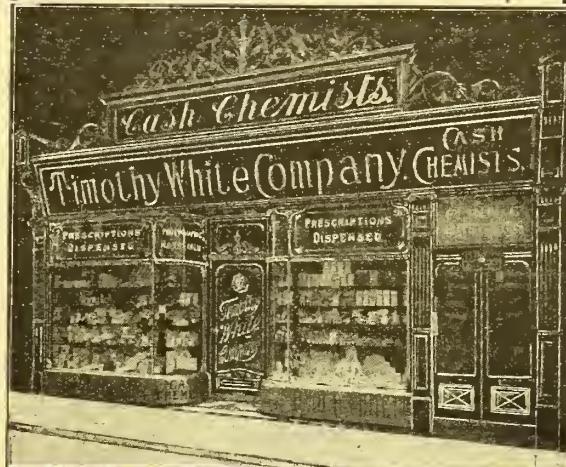
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Established over 100 years

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We give dignity and elegance
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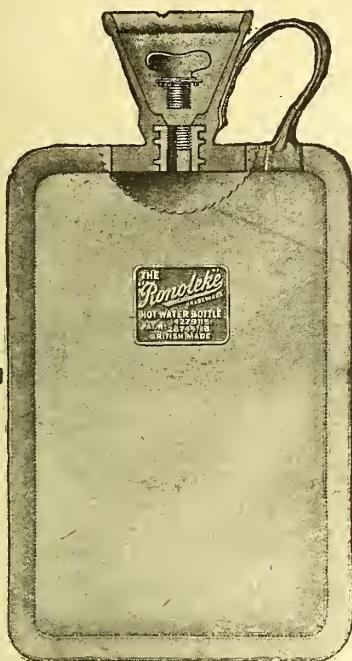
Beautifully Packed.

Good Profits.

Best Quality.



EVANS SONS LESCHER & WEBB LTD.
LIVERPOOL. NEW YORK. LONDON.



The Makers of The "RONOLEKE" Hot Water Bottle Apologise to the Trade

for their inability to supply the immense demand for these well-known Guaranteed Unleakable Hot Water Bottles. Their Works and Staff were engaged on urgent Government Contracts to which all their energies were devoted.

They believe, however, that the arrangements now made will enable them to overtake all demands from the Trade.

To make certain of securing YOUR supply of "Ronoleke" Hot Water Bottles, it is advisable to order from your wholesale house NOW—rather than later. They will supply you with attractive showcards and other advertising material.

Prices of the "Ronoleke" Hot Water Bottles

Protected on the P.A.T.A. List.

| Size | Minimum Wholesale Prices to Retailers | | | Minimum Retail Prices to Public |
|-----------|--|-------|------|------------------------------------|
| 6" x 8" | | | 4/6 | 6/9 |
| 6" x 10" | | | 4/10 | 7/3 |
| 7" x 10" | | | 5/- | 7/6 |
| 6" x 12" | | | 5/2 | 7/9 |
| 8" x 10" | | | 5/6 | 8/3 |
| 7" x 12" | | | 5/8 | 8/6 |
| 6" x 14" | | | 5/8 | 8/6 |
| 8" x 12" | | | 6/2 | 9/3 |
| 9" x 12" | | | 6/7 | 9/11 |
| 8" x 14" | | | 6/8 | 10/- |
| 10" x 12" | | | 7/- | 10/6 |
| 10" x 14" | | | 7/11 | 11/11 |
| 10" x 16" | | | 8/6 | 12/9 |
| 12" x 16" | | | 9/2 | 13/9 |

You can get your supply of "Ronoleke" Hot Water Bottles from any Wholesale Druggists' Sundriesman.

NEW FORMULA “DAISY”

More Profitable than ever!

WHOLESALE PRICES:

1/- Packets, each containing 8 Powders.

MINIMUM RETAIL, 1/-.

SAMPLE POWDER, 2d.

| | | | |
|---------------|---------|-----|------------|
| 1 dozen boxes | - - - - | 9/9 | per dozen. |
| 3 " " | - - - - | 9/2 | " " |

2/3 Packets, each containing 20 Powders.

MINIMUM RETAIL, 2 3.

| | | | |
|---------------|---------|------|------------|
| 1 dozen boxes | - - - - | 21/6 | per dozen. |
| 3 " " | - - - - | 20/6 | " " |

Daisy Tablets.

MINIMUM RETAIL, 1/3.

| | | | |
|---------------|---------|------|------------|
| 1 dozen Tins | - - - - | 13/- | per dozen. |
| 3 " " | - - - - | 12/6 | " " |

Mixed orders, 1/- and 2 3 Powders and Tablets on best terms.

DISCOUNT, 7½ PER CENT. FOR CASH. CARRIAGE PAID TO DESTINATION.

HUGE ADVERTISING CAMPAIGN NOW IN FULL SWING!

The New Formula prices allow the same generous proportion of profit as hitherto, except in the case of Tablets, which are now more profitable than before, and of the 2/3 size (late 1/7 size), which now sells at full face value, the chemist getting the advantage of the extra 3d.

ADVERTISING MATTER ON APPLICATION.

FROM ALL WHOLESALERS OR DIRECT

DAISY, LTD., Manufacturing
Chemists, **LEEDS.**

Telegrams: "DAISY LEEDS."

Telephone: 22042.



PACKING that PAYS

PACKING nowadays is an important question. Good packing pays; bad packing is not only waste of money, it means positive loss—It may lose you customers.

It is worth while to get a good case for your goods—one that has been proved by time. Such is the "Fiberite" Case.

By adopting the "Fiberite" Packing Case you will find that claims will be at a minimum, your goods will be kept fresh and free from dust, dirt and moisture; 90% of storage space will be saved because they are packed flat; carriage will be less; and their clean attractive appearance will add to your sales.

May we send you a copy of
our Booklet—"A Good Case"?

THAMES PAPER CO., LTD.
PURFLEET **ESSEX**

TOOTH PASTES.

IN PURE TIN, COLLAPSIBLE TUBES WITH RIBBON ORIFICE.

VARIETIES:

ANTISEPTIC
ARECA NUT
CARBOLIC
CHERRY
CREME DE MENTHE

DENTAL CREAM
EAU DE COLOGNE
FORMAMINT
KALYPTOS (^{Peppermint, Thymol, Eucalyptus})
OTTO OF VIOLET

PEARL
SMOKER'S
THYMOL
WINTERGREEN
WHITE ROSE

QUALITY.

Our Tooth Pastes are made with a pure Glycerine Base and will keep perfectly in all climates. They contain no trace of Sugar, Honey, Glucose or allied substance.

NAME AND ADDRESS.

Chemist's own name and address printed on six dozen and upwards, assorted or otherwise. LABELS exquisitely printed in colours and gold. Several distinctive series of labels and cartons.

PROPRIETARY TOOTH PASTES.

For orders of not less than 12 doz. we are prepared to print a special proprietary label, for example : "Smith's Smoker's Tooth Paste," "Jones' Dental Cream."

Chemists contemplating adopting one of the above varieties as a Proprietary are recommended to send for a seven shilling box containing twelve varieties to enable them to decide by personal use which they consider likely to be most popular with their customers.

Specimen labels and cartons available for proprietary name Tooth Pastes sent on application. These will enable the Chemist to appreciate the strikingly beautiful and unique get-up that we are in a position to offer.

ONE SAMPLE TUBE FREE.

We will send one tube post free to any Chemist if applicant will state which Tooth Paste more particularly interests him.

Price in Gross Lots, **6/9** per dozen, carriage paid.

Smaller quantities **7/-** per dozen.

